

HERU

HEALTH ECONOMICS RESEARCH UNIT

Promoting Excellence in Health Economics

ANNUAL REPORT 2015



CHIEF
SCIENTIST
OFFICE

HERU is supported by the Chief Scientist Office (CSO) of the Scottish Government Health and Social Care Directorates (SGHSCD)



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HERU

The **Health Economics Research Unit** (HERU) was established at the University of Aberdeen in 1977. The Unit is part of the Institute of Applied Health Sciences (IAHS) in the School of Medicine, Medical Sciences and Nutrition within the College of Life Sciences and Medicine.

Core funding for the Unit comes from the **Chief Scientist Office** (CSO), part of the **Scottish Government Health and Social Care Directorates** and the **University of Aberdeen**. HERU is one of two CSO-funded research units based within the IAHS. Our sister unit is the Health Services Research Unit (HSRU).

The CSO remit for the Health Economics Research Unit requires HERU to “develop new methods within health economics and to encourage the use of health economics”. More specifically the remit is to:

- Research into economic approaches to health and health care.
- Develop economic techniques to be readily applied by economists and/or health care personnel.
- Demonstrate and test the approaches and techniques.
- Accumulate and make available to the health service a body of expertise in health economics.

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WELCOME



Welcome to the 2015 annual report for the Health Economics Research Unit (HERU).

2015 saw Professor Anne Ludbrook step down as Health Behaviour and Inequality theme leader, I am pleased to say Anne will continue to contribute to the theme. The theme is now led by Professor Paul McNamee, and has broadened to encompass the topic of self-management, which considers health behaviour amongst people with pre-existing long term conditions.

To highlight our policy relevant work we launched our Policy Brief series. Policy issues covered were: increasing the uptake of healthy lifestyles, cost-effectiveness of alternative catheters to reduce hospital infections, alternatives to surgery for the treatment of varicose veins, self-monitoring for Warfarin therapy and challenges faced in encouraging individuals to move away from consulting general practitioners for common symptoms.

We continued to secure externally funded projects. We are co-applicants on several National Institute for Health Research (NIHR) funded randomised controlled trials, where we develop and conduct economic evaluation alongside clinical assessment. Additionally, funding was secured from Arthritis UK (*maintaining musculoskeletal health*), NHS Health Scotland (*the nature and extent of food poverty insecurity in Scotland*) and the Chief Scientist Office (CSO) of the Scottish Government Health and Social Care Directorates (*vitamin K supplementation to reduce falls in older people – a multi-centre trial*). More details on these, and other grants, are provided in this report.

Capacity building continues to be important. Our popular discrete choice experiment workshop was presented in Aberdeen and Canada. A new workshop, ran on behalf of the Health Economics Network for Scotland (HENS), on 'Identifying, appraising and applying health economics evidence for public health' proved very popular and will be presented again in 2016. We welcomed 3 new PhD students: Uma Thomas will continue our work using insights from time preference to develop an intervention to improve adherence to exercise; Kevin Momanyi is taking forward work on health and social care integration, researching the enhancement of quality of social care using economic analysis; and Ruben Sakowsky took up the Gavin Mooney PhD studentship and is exploring how deliberative methods can be used to improve preference elicitation. We also launched our new Health Pathway within the University of Aberdeen's MSc Applied Economics. 2015 saw the continuation of our internship scheme, with four excellent students working with us over the summer. The energy of our students and interns continues to inspire me.

It is always rewarding to see staff receive recognition. Professor Marjon van der Pol was appointed Honorary Professor at the Behavioural Science Centre, University of Stirling. Marjon will continue her collaborations with the Centre in the area of behavioural economics with a focus on time and risk preferences. Dr Verity Watson was an International Visiting Research Scholar at the Peter Wall Institute for Advanced Studies at the University of British Columbia, continuing her methodological work on the development of stated preference methods.

Whilst 2015 brought many successes, it ended on a very sad note with the death of our dear friend and colleague Dr Divine Ikenwilo. Those who knew Divine will remember him as a true gentleman and very kind friend and colleague who was always smiling. For many in HERU, Divine was 'Simply Divine'. He will be sadly missed.

I hope you enjoy reading this report. For further information on our research, capacity building and dissemination see our website (www.abdn.ac.uk/heru).

Mandy Ryan
Director

2015 at a glance...

January	February	March	April	May	June
<p>PhD Presentations at Scottish Graduate Programme in Economics (SGPE) Residential Methodology Conference</p> <p>Sebastian Heidenreich <i>'It's not what you ask, but how you ask it! Respondents' ability to reflect on their use of attribute non-attendance in a DCE.'</i></p> <p>Alastair Irvine <i>'The role of time preference in the medical decision making context: a research plan'</i>.</p>	<p>International Collaboration</p> <p>Researchers contributing to the <i>Determinants of Diet and Physical Activity (DEDIPAC)</i> programme of work led by Anne Ludbrook met in Paris to discuss the online toolbox for the development, implementation and evaluation of policies and multicomponent interventions.</p>	<p>New Strategic Theme Direction Health Behaviour and Inequality (HBI) theme leader Paul McNamee announced new strategic direction of the theme. HBI now extends to encompass the topic area of self-management, which considers health behaviour amongst people with pre-existing long term conditions, and is developing further work on inequality measurement and on the causal relationship between health and education.</p>	<p>HERU launch new 'Policy Brief' series</p> <p>The first two hot off the press:</p> <p><i>'Gaining pounds by losing pounds: research finds financial incentives could help reduce obesity'</i> by Mandy Ryan.</p> <p><i>'Cost-effectiveness of treatments for varicose veins'</i>, by Graham Scotland and Emma Tassie.</p>	<p>International Scholar Award</p> <p>Verity Watson received an International Visiting Scholar Award from the Peter Wall Institute for Advanced Studies. The Institute is part of the University of British Columbia (UBC) in Vancouver, Canada. Verity was one of 16 international scholars to receive the award for 2015/16.</p>	<p>Training for Health Economists in Scotland</p> <p>Paul McNamee, Graham Scotland and Aileen Neilson from HERU, and Cynthia Fraser from our sister unit HSRU, delivered our first training workshop for members of the Health Economics Network for Scotland (HENS). The workshop took place in Edinburgh and was entitled <i>'Identifying, appraising and applying health economics evidence for public health'</i>.</p>
<p>HERU Policy Workshop (Edinburgh)</p> <p>Anne Ludbrook delivered a Policy Workshop to delegates from Scottish Government, NHS and Scottish Universities on <i>'Socio economic inequalities in health and behaviour: application of novel approaches to identify health inequality in Scotland and England to inform policy'</i>.</p>		<p>DCE Residential Workshop (Canada)</p> <p>Mandy Ryan delivered our 3-day workshop <i>'Using Discrete Choice Experiments in health economics: theoretical and practical issues'</i>, at Banff Conference Centre, Banff, Alberta, Canada.</p>		<p>Public Engagement</p> <p>Paul McNamee contributed to the panel discussion on <i>'NHS 2020: What will healthcare look like in five years' time?</i> At the May Festival, a University of Aberdeen Public Engagement event.</p>	

July	August	September	October	November	December
<p>HERU appoint new Post-Doctoral Fellow</p> <p>Zoé Ejebu was awarded a Post-Doctoral Research Fellowship in HERU. Her work on the effect of anxiety, stress (mental health) and physical health problems on the rate of sickness absence among private and public workers (NHS, teachers, etc.) will be further developed as part of her Post-Doctoral Fellowship.</p>	<p>European Workforce Conference</p> <p>The '2nd Economics of the Health Workforce Conference' organised jointly by Diane Skátun in HERU and Mateo Ruggieri from the Università Cattolica del Sacro Cuore took place in Milan. The focus of this 2-day conference was on micro-econometric studies of health workforce supply and demand.</p>	<p>Honorary Appointment</p> <p>HERU Depute Director, Marjon van der Pol was appointed Honorary Professor at the Behavioural Science Centre, University of Stirling. Marjon will continue her collaborations with the centre in the area of behavioural economics with a focus on time and risk preferences.</p>	<p>HERU welcome new PhD Students</p> <p>Uma Thomas received an Institute of Applied Health Sciences (IAHS) studentship to research 'Using insights into time preference and present bias to develop an intervention to improve adherence to exercise'.</p>	<p>Capacity Building in Aberdeen continued with... Discrete Choice Experiment (DCE) Workshop.</p> <p>'Using Discrete Choice Experiments in health economics: theoretical and practical issues'</p> <p>20 delegates attended from wide ranging backgrounds, including the commercial sector, academics and PhD students. Delegates travelled from as far afield as Switzerland and the USA.</p>	<p>HERU Policy Brief Series</p> <p><i>'Reducing hospital infections: which catheter?'</i> by Mary Kilonzo.</p> <p>Key Finding – Nitrofurazone-impregnated catheters may be cost-effective for use in the UK NHS. The cost savings were modest but given the volume of catheterisation and the high likelihood of this situation occurring, even this small difference may lead to substantial savings overall.</p>
<p>The Gavin Mooney Research Prize</p> <p>Congratulations to Uma Thomas, one of our Economics of Health MSc students, who was awarded The Gavin Mooney Research Prize for her thesis on 'the role of time preference and cognitive ability in the education/health relationship'.</p>		<p>New PhD Student</p> <p>Ruben Sakowsky commenced his PhD on 'evaluating justification and decision making schemes for resource allocation in healthcare'. Ruben is funded by the Gavin Mooney PhD Studentship.</p>	<p>New PhD Student</p> <p>Kevin Momanyi received an ESRC/Scottish Government funded studentship entitled 'Enhancing quality in social care through economic analysis'.</p>	<p>Public Engagement</p> <p>A Public Engagement event saw Liam Mc Morrow deliver a PechaKucha (Chit-Chat in Japanese) presentation in Aberdeen on 'Nudging people to make better decisions: is it ethical?'.</p>	<p>...As 2015 drew to a close... HERU staff and students head towards the festive break and look back at our highlights of 2015 and start planning new ones for 2016.</p> <p>We celebrated the end of another productive year with our annual Christmas lunch, a well-deserved event to thank all for their contributions throughout 2015.</p>



Research

THE UNIT'S RESEARCH

HERU's Research is structured into four themes:

- *Assessment of Technologies*

Assessment of Technologies – conducts economic evaluations to address questions of immediate policy or practical relevance for NHS decision-makers, and pursues methodological research to strengthen the application of economic evaluation methods. The theme works closely with the Health Services Research Unit (HSRU) and the Centre for Healthcare Randomised Trials (ChART) at the University of Aberdeen, and co-hosts a NIHR contract to conduct Technology Assessment Reviews for the NHS.

- *Health Behaviour and Inequality*

Health Behaviour and Inequality – aims to build an understanding of the role of health behaviour in the generation and maintenance of health and well-being. Areas of expertise include lifestyle behaviours (where we work closely with the Rowett Institute of Nutrition and Health on diet and food choice) and self-management of chronic conditions. Methodologically we lead work internationally on time preference and are developing novel econometric methods to measure health inequalities in developing countries.

- *Workforce and Organisation of Care*

Research in the Workforce and Organisation of Care theme examines how financial and non-financial incentives and constraints influence the behaviour and performance of individuals and the organisation of care within the health care sector, with HERU becoming increasingly recognised for this work.

- *Methods of Benefit Valuation*

Methods of Benefit Valuation – HERU is at the forefront internationally of research developing preference elicitation methods, most notably discrete choice experiments (DCEs) and contingent valuation, for use within health economics. Cutting edge methodological work is conducted (currently laboratory based experiments and eye-tracking) and the methods are applied to a range of policy questions. The theme is involved in collaborations across HERU and the IAHS.

The main achievements and activities of the four research themes are described in the following pages. The Appendices provide details of recent completed projects, projects in progress and our publications and presentations in 2015.

ASSESSMENT OF TECHNOLOGIES

Theme Leader: Dr Graham Scotland



The Assessment of Technologies theme, led by [Dr Graham Scotland](#), focuses on the application and development of economic evaluation methods for the assessment of health technologies. The theme is involved in a large number of projects that can be broadly categorised across the following sub-themes:

- *Evidence synthesis projects*, which are based primarily on systematic reviews of existing evidence and involve decision analytic modelling.
- *Economic evaluations alongside randomised controlled trials*, many of which are managed by the Centre for Healthcare Randomised Trials (CHaRT) hosted by our sister unit the Health Services Research Unit (HSRU).
- *Projects based on observational cohort data*, which may also involve decision analytic modelling informed by the analysis of cohort data.
- *Methodological projects*, which aim to develop the methods of economic evaluation.

Evidence synthesis projects

In the past year the theme has completed two major evidence synthesis projects: 1) A National Institute for Health and Care Excellence (NICE) commissioned multiple technology assessment of *Collagenase clostridium histolyticum for treating Dupuytren's contracture*; and 2) a National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme Technology Assessment Review (TAR) on the *Clinical and cost-effectiveness of open mesh repairs in adults presenting with a clinically diagnosed unilateral, primary inguinal hernia who are operated on in an elective setting*. Further NICE commissioned work, allocated to the Aberdeen HTA Team through the TAR contract, saw the Assessment of Technologies theme involved in two on-going single technology assessments of drugs for hypercholesterolemia; the first appraising *ezetimibe for patients with hypercholesterolaemia* (<http://www.nice.org.uk/guidance/indevelopment/gid-tag326>); and the second appraising *Alirocumab for primary hypercholesterolaemia and mixed dyslipidaemia* (<http://www.nice.org.uk/guidance/indevelopment/gid-tag512>). NICE is expected to issue guidance on both these topics in 2016.

Economic evaluations alongside randomised controlled trials

The final reports for two multi-centre NIHR funded trials were submitted:

- *The effectiveness of early lens extraction with intraocular lens implantation for the treatment of primary angle-closure glaucoma (EAGLE)*; and
- *Clinical and cost-effectiveness of surgical options for the management of anterior or posterior vaginal wall prolapse: pragmatic evaluation by multi-centre randomised controlled trial – PROlapse Surgery: Pragmatic Evaluation and randomised Controlled Trial (PROSPECT)*.



The theme was also involved in carrying out an economic evaluation alongside another randomised controlled trial funded by Arthritis Research UK: *Maintained physical activity and physiotherapy in the management of distal arm pain*. Our trials portfolio also saw the addition of two new NIHR funded studies in 2015. *eFREEZE is a randomised controlled trial evaluating the clinical and cost-effectiveness of a policy of freezing all embryos followed by thawed frozen embryo transfer, compared with a policy of fresh embryo transfer in women undergoing in-vitro fertilisation* (see box below). It will be coordinated by the National Perinatal Epidemiology Unit Clinical Trials Unit and will involve

multiple IVF centres across the UK. The second new trial the theme is involved in will assess *the clinical and cost effectiveness of surgical interventions for stones in the lower calyx of the kidney: the PURERCT – Percutaneous Nephrolithotomy (PNL), Flexible Ureterorenoscopy (FURS) and Extracorporeal Lithotripsy (ESWL) for lower pole Calyceal Kidney Stones*. This multi-centre randomised controlled trial will be co-ordinated by the Centre for Healthcare Randomised Trials (CHaRT). Both of these trials are currently in their early set up phase and are due to start recruiting.

Projects based on observational cohort data

Our work based on observation cohort data saw the completion of a CSO funded study assessing *the cost-effectiveness of adopting risk stratified screening intervals within the national diabetic retinopathy screening programme in Scotland*. This project involved collaboration with researchers at the Universities of Edinburgh and Dundee, and NHS Grampian and Tayside. Longitudinal screening data held by the Scottish Care Information – Diabetes Collaboration was used to estimate the risk of developing referable retinopathy by individual level clinical and demographic characteristics. By utilising the derived probabilities of progression within a state transition micro-simulation model, we were able to assess the cost and health impact of adopting longer/shorter screening intervals for different groups of patients.

Methodological projects

Methodological work on incorporating broader measures of value in economic evaluation is continuing as part of two on-going PhD projects. **Dwayne Boyers** is exploring the use of broader measures of value in the context of trial based economic evaluations in dental care. **Antje Tockhorn-Heidenreich** is focussing on the role of patient preferences in the health technology assessment process. **Rodolfo Hernández** completed and successfully defended his viva, with minor corrections, on the use of willingness-to-pay estimates derived from discrete choice experiments to value outcomes and processes in decision analytic models.

PROJECT AWARDED

eFREEZE: A randomised controlled trial evaluating the clinical and cost-effectiveness of a policy of freezing all embryos followed by thawed frozen embryo transfer, compared with a policy of fresh embryo transfer in women undergoing in-vitro fertilization

One in seven couples experience difficulty in conceiving and may require in-vitro fertilization (IVF). Conventionally, the embryos created through IVF are replaced within the womb a few days after fertilization (fresh embryo transfer). Remaining good quality embryos are available to be frozen so that they can be thawed and transferred at a later date (thawed frozen embryo transfer) if required.

Until recently it has been universally believed that a fresh embryo has the best chance of resulting in pregnancy. Although this way of providing IVF is still the one which is most widely used, associated pregnancy rates remain fairly low (25% live birth rate). In addition, pregnancies resulting from IVF treatment incur an increased risk of complications to mother and baby. These risks appear to be higher following fresh as opposed to frozen embryo transfer.

Over the last decade, embryo freezing techniques have improved substantially and recent research suggests that transfer of thawed frozen embryos could lead to higher pregnancy rates as well as fewer complications. Hence the eFREEZE trial is a large multi-centre randomised controlled trial that aims to evaluate the clinical and cost effectiveness of a policy of freezing all good quality embryos followed by thawed frozen embryo transfer, compared with the current practice of fresh embryo transfer in women undergoing IVF.

*Full details of the project can be found on the NIHR HTA programme web page: <http://www.nets.nihr.ac.uk/projects/hta/1311582> or contact **G. Scotland** g.scotland@abdn.ac.uk*



A further on-going area of methodological interest in the AoT theme is focusing on ways of addressing the observed imbalance between the evaluation of new technologies (for adoption decision making) and existing technologies in widespread routine use to promote decision making that improves allocative efficiency. Further work in this area was presented as part of an organised session at the Canadian Agency for Drugs and Technologies in Health (CADTH) annual symposium in Saskatoon (April 2015). In addition researchers working in the AoT theme have been active in disseminating the findings of their research at national and international conferences in 2015, including the International Health Economics Association (iHEA) conference in Milan, and the Health Technology Assessment international (HTAi) conference in Oslo.

PROJECT COMPLETED IN 2015

PROSPECT: PROlapse Surgery: Pragmatic Evaluation and Randomised Controlled Trials

Around 1 in 10 women will need prolapse surgery at some point in their lives. New techniques have been introduced which use mesh to reinforce the surgery, but these have not been properly evaluated, especially in terms of how well they improve prolapse symptoms. The PROSPECT study, which was carried out at 35 hospitals in the UK, randomised women having an anterior and/or posterior vaginal wall prolapse operation to one of two trials:

1. *Women having their first repair operation were randomised to one of: a) a standard anterior or posterior prolapse repair; b) a standard repair with a synthetic non-absorbable or hybrid mesh inlay; or c) a standard repair using a biological graft inlay.*
2. *Women having a second or subsequent repair were randomised to: a) a standard anterior or posterior prolapse repair; b) with a synthetic non-absorbable or hybrid mesh inlay; or c) a mesh kit (using an introducer device) with a non-absorbable or hybrid mesh.*

*Women enrolled in the trial completed questionnaires both before and after their operation. Further symptom and health related quality of life questionnaires were also filled in at 6, 12 and 24 months follow up. Members of the AoT theme were involved in conducting the economic evaluation alongside this trial. This assessed the cost-effectiveness of the alternative interventions up to 24 months follow-up (based on individual patient data), and also involved modelling to extrapolate the longer-term cost-effectiveness of the alternative procedures for primary repair. The report was submitted to the NIHR in September 2015 and is due to be published in 2016. Please contact **M. Kilonzo**, m.kilonzo@abdn.ac.uk for further information.*



<http://w3.abdn.ac.uk/hsru/prospect/default.aspx>



HEALTH BEHAVIOUR AND INEQUALITY

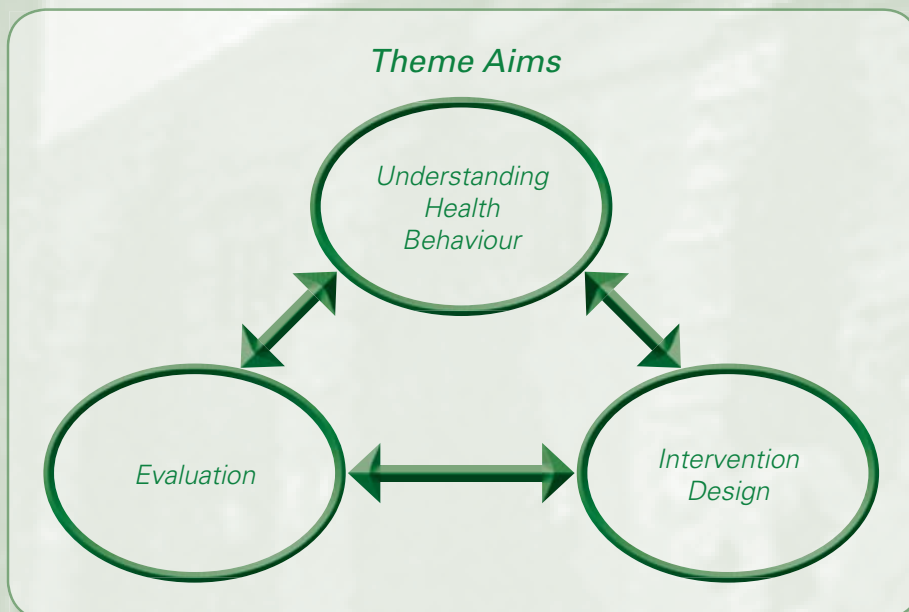
Theme Leader: Professor Paul McNamee

Since the previous Annual Report, [Professor Anne Ludbrook](#) has stepped down as Health Behaviour and Inequality theme leader, although Anne continues to contribute to the theme. The theme is now led by [Professor Paul McNamee](#) and this change means that the theme has broadened out to consider health behaviour amongst people with existing long-term conditions. The overall theme aims, however, remain the same – to enhance understanding of health behaviour and inequality from an economics perspective, and to strengthen the evidence base relating to interventions that aim to influence behaviour, both in terms of their design and also in terms of evaluation of their effectiveness and cost-effectiveness. The theme aims are shown below – highlighting that intervention design can be informed by research that considers the drivers of health behaviour, and that evaluation plays a key part in further intervention design and informing new research regarding the behavioural response to incentives.

Newly funded projects

- *Feasibility study of how best to engage obese men in narrative SMS (short message system) and incentive interventions for weight loss, to inform a future effectiveness and cost-effectiveness trial (NIHR funding).*
- *Lessening the impact of long-term conditions through behavioural therapies (Arthritis Research UK funding).*
- *Maintaining musculoskeletal health (Arthritis Research UK funding).*

The nature and extent of food poverty/insecurity in Scotland, funded by NHS Health Scotland, was assessed by [Lynda](#)



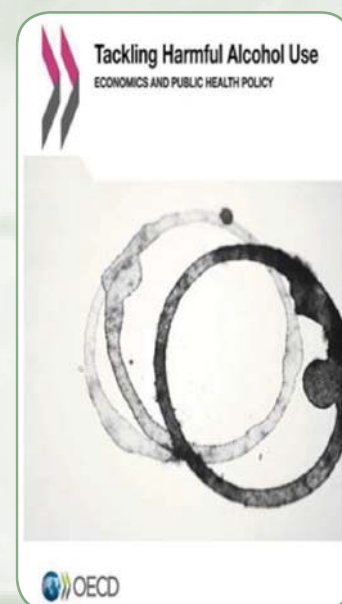
[McKenzie](#), [Zoé Ejebu](#) and [Anne Ludbrook](#) in collaboration with colleagues at the Rowett Institute of Nutrition and Health and Universities of Glasgow and Warwick. This estimated the current prevalence and nature of food poverty/insecurity in Scotland, the experience felt by particular vulnerable groups (older people, those facing destitution, those living in rural and remote rural areas), and how community food initiatives were adapting to address the challenges created. The qualitative findings suggest that there are more people struggling to feed themselves and their families in Scotland than current food bank figures indicate. Poorer households spend less on food and non-alcoholic drink per person than households with above average incomes but spend almost twice the proportion of their household income on food and non-alcoholic drink. Results were presented at key scientific meetings, including the Federation of European Nutrition Societies, Berlin and the Faculty of Public Health Conference, Peebles.

HEALTH BEHAVIOURS AND INEQUALITIES

Research by [Yu Aoki](#) on the effect of *education and English-language skills on health and fertility outcomes of immigrants in the UK* progressed with findings shared with national policy-makers that included the science section of the Home Office and the Department for Communities & Local Government. Also, work by [Ramses Abul Naga](#) on *measurement of multidimensional inequality in relation to anthropometric definitions of health* has developed with a publication (*'Estimation of inequality indices of the cumulative distribution function'*, *Economics Letters*, 130, pp109-112.) that develops new inequality indices for self-assessed health, happiness and ordered response data.

Our research into time and risk preferences continues to grow, with some of the latest findings published in *Social Science and Medicine* and the *Journal of Economic Psychology*. New research started into the measurement of time preferences and present bias in collaboration with the Behavioural Science Centre at the University of Stirling. [Marjon van der Pol](#) spent four weeks in Stirling developing new collaborations between HERU and the Behavioural Science Centre. A new PhD focused on developing physical activity interventions drawing on insights from time preferences also commenced in 2015. [Uma Thomas](#) (supervised by [Marjon van der Pol](#) and [Julia Allan](#), (Health Psychology, University of Aberdeen)) took up the University of Aberdeen Institute of Applied Health Sciences funded PhD project in October, entitled *'Seeing into the future: the role of time preferences in changing health behaviours'*.

Our research on minimum unit pricing for alcohol is on-going and has been internationally recognized in the OECD publication *'Tackling Harmful Alcohol Use: Economics and Public Health Policy'*, where [Anne Ludbrook](#) addressed the question *'How does minimum unit pricing for alcohol affect different types of drinkers?'*



Staff within the theme participated in several policy and research workshops over the year. Presentations were given by [Anne Ludbrook](#) from the CSO funded project *'Socioeconomic inequalities in health and behaviour: application of novel approaches to identify health inequality in Scotland and England to inform policy'* at a Scottish Government workshop in January. [Marjon van der Pol](#) presented *'Quasi-hyperbolic discounting and physical activity participation'* at the *Network for Integrated Behavioural Science (NIBS) Workshop*, Nottingham, in April, and [Paul McNamee](#) presented on *'Designing and undertaking health economics studies of digital interventions'* at the *Medical Research Council (MRC) Digital Health Interventions Guidance Workshop*, London, in September.

Public engagement was also prominent this year with a number of events taking place. [Patricia Norwood](#), [Zoé Ejebu](#) and [Liam Mc Morrow](#) participated in PechaKucha showcase events. PechaKucha (Chitchat in Japanese) presentations rely on visual images and allow only 20 seconds for each of 20 slides. [Anne Ludbrook](#) presented on the economics of health behaviour to 6th form students at the Scottish Economic Society School Students and Teachers of Economics Seventh Annual Conference.

Turning to capacity building, [Paul McNamee](#), along with HERU colleagues [Graham Scotland](#) and [Aileen Neilson](#), developed, organised and led a new training course for the Health Economics Network for Scotland (HENS) on *'Identifying, Appraising and Applying Health Economics Evidence for Public Health'*. Attendees included health care analysts and decision-makers working in health boards within Scotland. The event was warmly received and over-subscribed, and the course will continue to be offered. Finally, current PhD students [Liam Mc Morrow](#), [Laura Dysart](#) and [Alastair Irvine](#) are progressing well with their studies, with presentations at the Health Economists' Study Group, the European Health Economics Association (EuHEA) PhD Symposium and the Scottish Graduate Programme in Economics Annual Conference.



WORKFORCE AND ORGANISATION OF CARE

Theme Leader: Dr Diane Skåtun

The Workforce and Organisation of Care theme, led by [Dr Diane Skåtun](#), aims to further our understanding of individual and organisational behaviour within the health care sector. The theme examines the role of financial and non-financial incentives and constraints on both individuals and the organisation structure in which they operate within the health care sector, and contributes to the improvement of the measurement and monitoring of performance within the sector. The theme's objective is to improve the evidence-base for policy making through analysis of these factors.

With increasing demands on health services, it is becoming ever more important to consider alternative ways of providing and organising health care. One consideration is which health care professional should be delivering the health care. Examples include extending the role of pharmacists and nurses in the management of common ailments, promoting self-care of symptoms indicative of self-limiting illness, and extending the roles of specialist nurses and physician associates in some clinical areas. One project recently published research using a discrete choice experiment (DCE) to investigate preferences in the management of different illnesses within primary care. This research considered the willingness to trade between different health services and found that, 'traditional' actions of 'self-care' for minor symptoms and 'GP consultation' for more serious symptoms were preferred. The analysis did suggest, however, that for less serious symptoms people may be more willing to trade between different health services. This information will be useful to develop further interventions aimed at changing patient behaviour within primary care.

In the past year research has continued on the European Commission funded Seventh Framework programme entitled *Health care reform: the iMPact on practice, oUtcomes and costs of New roles for health pROfeSsionals* (MUNROS). This four-year project is examining the nature, scope and contribution of new professional roles, evaluating their impact on clinical practice and outcomes, and identifying their scope to improve the integration of care. It includes an economic evaluation to identify the cost effectiveness of the new professional roles, and will identify optimal models for delivery of health care and the consequences of these for the management of human resources and workforce planning. 2015 has seen an exciting phase of the project with questionnaires distributed to health professionals, managers and patients. This data is now being analysed across the nine partner countries.

MUNROS Project

The MUNROS project (iMPact on practice, oUtcomes and costs of New roles for health pROfeSsionals) organised a session at iHEA 2015 in Milan. Three presentations reported the first results from this large collaborative research project into the role and contribution of the new professions and the changing role and contribution of the established professions.

The first presentation by MUNROS involved University of Manchester collaborators Gibson, Birch and Sutton who reported the results of two surveys of health professionals and their managers. It reported the tasks undertaken by new and established health professions and how this changing skill mix differs between countries, and it identified the role of economic and institutional factors in accounting for inter-country differences.

The presentation by Università Cattolica del Sacro Cuore collaborators Matteo Ruggeri and Silvia Coretti reported patient's responses to the changing workforce skill mix and the impact of these changes on patient's satisfaction and health outcomes.

The third presentation by University of Bergen collaborators Jan Erik Askildsen and Muhammad Kamrul Islam used routine and register data from the nine countries to assess the impact on clinical processes and clinical outcomes. It evaluated whether the changes observed have impacted on the productivity of the secondary care sector.

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Work has been completed on the CSO funded project *Avoidable Scottish Hospitalisations (ASH)* that tested the robustness of potentially preventable hospitalisations (PPH) as indicators of the quality of primary care in Scotland. This was the second of two projects that were completed in 2015 that investigated the monitoring of performance within the health care system. The other was the National Health and Medical Research Council (NHMRC) Australia funded project, *'Are potentially preventable hospitalisations a valid measure of the quality and affordability of primary and community care in Australia'*, for which HERU was an international collaborator. This research found that it is personal sociodemographic and health characteristics, and not GP supply, that are the major drivers of geographic variation in preventable hospitalisation.

Research is continuing within the theme to understand the drivers of behaviour of individuals within the health care workforce. 2015 saw a



continuation of our collaboration with our colleagues in Medical & Dental Education where we extended our work on identifying

important careers decision making factors for the current generation of UK medical trainees to consider the preferences of medical students. Work on low and middle income country workforces also continued when early in the year we welcomed Mari Nagai from the National Centre for Global Health and Medicine in Japan to discuss a proposed project concerned with health workers views on working in rural areas in Senegal. This project commenced later in the year, with data collected using a discrete choice experiment to elicit the views of clinicians, nurses and midwives. Data analysis will commence early in 2016.

WOC are also delighted to welcome **Zoé Ejebu** to a new post-doctoral fellowship post which will explore the role of job-satisfaction and mental illness on absenteeism in the public workforce, including the health care sector.

2015 also saw the 2nd Economics of the Healthcare Workforce conference, organised jointly by the WOC theme from HERU and the Università Cattolica del Sacro Cuore, taking place in Milan in July. This conference series has developed in recognition that the health workforce forms

Avoidable Scottish Hospitalisations (ASH)

Hospital admissions for Ambulatory Care Sensitive Conditions (ACSC) are those that could potentially be prevented by timely and effective disease management within primary care. They are increasingly used as primary care performance indicators. However, key questions remain about the validity of these measures. Indicators of primary care quality are integral to the Quality and Outcomes Framework (QOF). The aim of the project was to test the robustness of ACSC admissions as indicators of the quality of primary care in Scotland against indicators from the QOF.

The relationship between ACSC admissions and primary care performance was investigated using routinely collected data and multiple regression modelling. The analysis used hospital admissions data to identify ACSC admissions: asthma; chronic obstructive pulmonary disease; diabetes complications; stroke; hypertension; angina; cardiac congestive failure (CCF); and convulsions and epilepsy. These data were linked to practice records on attainment in the QOF and with practice level data on access, together with a range of covariates capturing characteristics of GP practices and factors that could be correlated with admissions, quality indicators and access to primary care.

That lower achievement on the QOF indicators was associated with higher ACSC was found on at least one indicator for four conditions. We also found the reverse, higher population achievement on the QOF indicator associated with higher ACSC. Better access was associated with lower ACSC admissions for four conditions.

Overall, the effects were small and inconsistent. It was also shown that ACSC admissions were associated with a range of confounding factors including deprivation and rurality of the practice population and distance to the hospital. Crude rates of ACSC admissions should therefore be treated with considerable caution when used as a measure of primary care quality.

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WORKFORCE AND ORGANISATION OF CARE

the backbone of health care systems around the world, with the decisions relating to them having major impacts on costs and health outcomes. Following a successful first conference in Sydney in 2013 the focus of this 2-day conference was on micro-econometric studies of health workforce supply and demand. The conference brought together researchers from all around the world and papers included work from Norway, South Africa, USA, Japan, Australia, Cape Verde, Mozambique, Guinea-Bissau and the UK. Sessions included 'Wages and Health Workforce Expenditure', 'Health Workforce Supply', 'Health Workforce Planning', 'Job satisfaction', and 'Workforce Preferences and Performance'.

Building on the collaboration with our colleagues in Medical & Dental Education (with Professor Jen Cleland as first supervisor) 2015 saw the securing of funding for a PhD studentship from the Scottish Medical Education Research Consortium entitled 'A mixed-methods study of career decision making in Foundation Programme doctors'. Gillian Scanlon commenced this exciting PhD project in October which will include a discrete choice experiment (DCE) to investigate career choice preferences of Foundation Programme doctors.

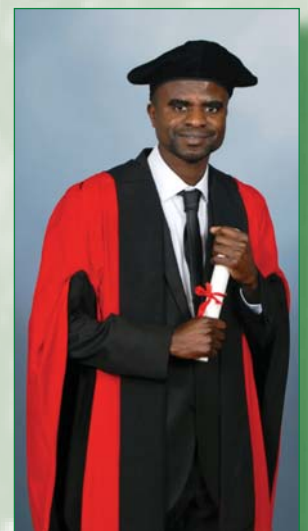


A second PhD student, [Kevin Momanyi](#), has also just started his studies and will be working on an ESRC/Scottish Government funded studentship entitled 'Enhancing quality in social care through economic analysis'. With people

enjoying higher life expectancy than ever before, policy makers are focusing on how to organise health and social care to meet the demands of an ageing population. One way of doing this is through enhanced integration of health and social care, which is a major policy aim of the Scottish Government. The PhD thesis will build up the evidence base in reablement and telecare by conducting econometric analysis of the 2010-2011 'Scottish linked health, social care and housing' data set. The coordination between primary, secondary and social care is also the focus of a new project that has been awarded funding in 2015 that will involve the systematic identification of those patients who place the greatest demands upon unscheduled care services in Lothian in order to focus resources on those likely to benefit from anticipatory care planning.

2014 PhD student recognised by the African Health Economics & Policy Association (AfHEA)

After successfully defending his PhD thesis in 2014, [Gerald Manthalu](#) returned to work in the Department of Planning and Policy Development in the Malawi Ministry of Health. The quality of the research he undertook in HERU and its relevance to improving primary health care performance in Africa has recently been recognised by the African Health Economics & Policy Association (AfHEA). His abstract 'The effect of user fee exemption on the utilization of maternal healthcare at mission healthcare facilities in Malawi', submitted to the 2016 AfHEA meeting, has been selected as one of the four best abstracts by a 12-member AfHEA Scientific Review Committee. Gerald will receive a cash prize (US\$5,000), a sponsorship package to participate in the 2016 AfHEA biennial conference and part-time support/supervision by a senior member of AfHEA to develop the abstract for publication.



METHODS OF BENEFIT VALUATION

Theme Leader: Dr Verity Watson



The Methods of Benefit Valuation theme, led by [Dr Verity Watson](#), aims to develop and refine economic methods of valuing health and health care. Our research explores individuals', patients' and society's values of the benefits of health and health care. We use several research methods, including surveys, field experiments, laboratory experiments, and qualitative research, to better understand how individuals complete stated preference tasks.

In 2015, [Mandy Ryan](#) and [Nicolas Krucien](#) completed research on the Health Foundation funded project *a discrete choice experiment to value the personalisation of support for the self-management of chronic pain*. This research was funded as part of the Health Foundation Inspiring Improvement programme, and is a collaboration with colleagues from Academic Primary Care and the Health Services Research Unit (HSRU) at the University of Aberdeen. The research represents one of the first studies to value personalised care. Respondents valued support which takes account of their current situation and what matters in life most highly (willingness to pay (WTP) £15.51 and £14.10 respectively), with personalised information valued at £10.86 and more personalised communication £3.46.

In 2015 research started on the NIHR Health Services and Delivery Research programme funded project *Gatekeeping in intensive care: understanding and improving the decision-making process surrounding admissions to the intensive care unit*. This research aims to investigate and improve the decision-making process about admissions to intensive care units (ICUs). In collaboration with colleagues from the University of Warwick, the study is using a discrete choice experiment to help understand ICU doctors' and outreach nurses' referrals to ICU. The main survey data will be collected in 2016.

'Broadening the Valuation Space in Health Technology Assessment: the case of monitoring individuals with ocular hypertension'

Rodolfo Hernández PhD

The economic evaluation (EE) component of health technology assessments (HTA) often defines value in terms of health related quality of life, with many HTA agencies requiring the use of EQ-5D based Quality Adjusted Life Years (QALYs). These approaches do not capture value derived from patient experience factors and the process of care. This thesis widens the valuation space beyond this limited perspective, using monetary values generated from a discrete choice experiment (DCE), incorporating these into a discrete event simulation (DES) and conducting a cost-benefit analysis (CBA). The case study used was the monitoring of individuals with ocular hypertension.

While the standard cost-utility analysis (CUA) using EQ-5D implied that 'Treat All' with minimal follow-up was cost-effective, CBA with broadened valuation space identified, biennial monitoring in a hospital setting as the best choice. This thesis proposes an approach to broaden the valuation space that can be promptly used for EE-HTA and advises researchers to be attentive of the valuation space considered in their EE.

Research continued on our methodological research. In September 2015, [Verity Watson](#) was an International Visiting Research Scholar at the Peter Wall Institute for Advanced Studies at University of British Columbia (UBC), Canada. During her visit Verity collaborated with Dr Dean Regier from the British Columbia Cancer Research Centre and School of Population and Public Health, UBC. [Verity Watson](#) and Dean Regier collaborate on two continuing research projects – *The interpretation of choice uncertainty in DCE tasks*, and *using the methods of experimental economics to understand stated preference responses*.

The MBV theme has a vibrant research culture and PhD students play an important part in this through their exciting and state of the art research. In 2015, there were six PhD students in the theme and they continued to progress with their research (summarised below) – there are two highlights this year: [Rodolfo Hernández](#) successfully defended his viva with minor corrections and [Ruben Sakowsky](#) took up the Gavin Mooney Studentship in September.

METHODS OF BENEFIT VALUATION

- **Dwayne Boyers**, a HERU Research Fellow, is undertaking his PhD research alongside two dental care trials (*IQuaD* and *INTERVAL*) in the Assessment of Technology theme. Dwayne's PhD explores the monetary valuation of dental health outcomes and investigates the external validity of DCE response in this context. Dwayne's PhD spans the Methods of Benefit Valuation and Assessment of Technologies themes.
- **Gin Nie Chua**, funded by the Commonwealth Scholarship Commission in the United Kingdom, passed her 2nd year assessment. Gin Nie's PhD research assesses the external validity of DCEs using a field experiment applied in the primary care setting. To date, she has completed her primary data collection and will now begin analysis and write-up phase of her PhD.
- **Sebastian Heidenreich**, funded by the University of Aberdeen Institute of Applied Health Sciences Flagship PhD studentship, is in the write up phase of his PhD and will submit in early 2016. Sebastian's PhD combines existing DCE data with new purposefully collected data collected to understand whether or not respondents attend to all attributes in a DCE task.

- **Rodolfo Hernández**, a HERU Research Fellow, successfully defended his viva with minor corrections. Rodolfo's PhD spans the Methods of Benefit Valuation and Assessment of Technologies themes.
- **Ruben Sakowsky**, supported by the Gavin Mooney Studentship, started his PhD in September. Ruben's PhD will focus on evaluating justification and decision-making schemes for resource allocation in health care. Ruben has an academic background in Philosophy and will investigate if, and how, deliberative models of preference evaluation can inform the framework of policy makers.
- **Antje Tockhorn-Heidenreich**, supported by an ESRC Scottish Graduate School in Social Sciences – Doctoral Training Centre PhD studentship (part-time) is in the 4th year of a 5 year PhD. In 2015, Antje passed her 2nd PhD assessment. Antje's PhD focuses on the question of how to incorporate the patient perspective into Health Technology Assessment. Antje's PhD spans the Methods of Benefit Valuation and Assessment of Technologies themes.

In November, the MBV team ran our annual three-day DCE workshop in Aberdeen. The workshop provides an opportunity for those interested in DCEs to learn about and discuss practical and theoretical issues. The workshop includes group work sessions with feedback. In March, **Mandy Ryan** taught the three day workshop in collaboration with Dr Deborah Marshall from the University of Calgary. In April, **Verity Watson** taught a three day 'Willingness to

Public engagement – Eye-tracking

Patricia Norwood and Nicolas Krucien took part in Explorathon 2015, which aimed to celebrate 'European Researchers' Night' in Aberdeen, in September. Nicolas and Patricia had a stand at the Satrosphere Science Centre, where kids and adults alike could take part in an eye-tracking experiment.

Our objective was to inform and engage the public in the current research we are undertaking with the eye-tracking machine. The stand was very popular and busy at all times and we received great feedback from the public. This success means the theme is looking forward to continue to interact with the public in future events.



pay in healthcare workshop to PhD and MSc students in Health Services Management at the Ludwig-Maximilians-Universität, München in Germany. These workshops contribute to our aim of building capacity in stated preference methods.

In 2015, our two-weekly internal *seminar series on stated preference* methods continued. This seminar series brings together a dedicated group of researchers with interests in stated preference methods from across the University of Aberdeen. Information on the seminar series is available on our website (<http://www.abdn.ac.uk/heru/heruevents/statedpref/>).



Members of the MBV theme 2015 (back from left to right): Gin Nie Chua, Ben Sakowsky, Dwayne Boyers, Rodolfo Hernández (front from left to right): Verity Watson, Patricia Norwood, Nicolas Krucien, Mandy Ryan. Absent from the photo are Antje Tockhorn-Heidenreich and Sebastian Heidenreich





*Knowledge Transfer
and Enhancing
Capacity...*

KNOWLEDGE TRANSFER

In 2015, HERU:

Launched our new Policy Brief series

The **Policy Brief** series was launched to replace our Briefing Paper series. The new Policy Brief is a 2-sided document highlighting key policy findings from our research. Our first Policy Brief, entitled: *'Gaining pounds by losing pounds: research finds financial incentives could help reduce obesity'*, reported research suggesting financial incentives could help reduce obesity and was launched in March. Authors were [Ryan, M.](#), Yi, D., Avenall, A., Douglas, F., Aucott, L., Van Teijlingen, E. and Vale, L.

Other Policy Briefs produced in 2015:

- *'Reducing hospital infections: which catheter?'* [Kilonzo, M.](#)
- *'Who wants to see a GP? Almost everyone?'* [Watson, V.](#), [Norwood, P.](#), [Ryan, M.](#)
- *'Cost-effectiveness of treatments for varicose veins'* [Scotland, G.](#) and [Tassie, E.](#)
- *'Is self-monitoring a cost-effective option for people receiving long-term vitamin K antagonist (Warfarin) therapy?'* [Scotland, G.](#)

Policy Briefs can be accessed at: <http://www.abdn.ac.uk/heru/publications/publications/heru-policy-briefs/>

Continued our Engagement with Stakeholders:

Policy Presentations and Workshops:

- In January, Barbara Eberth and [Anne Ludbrook](#) delivered a HERU Policy Workshop on *'Socio-economic inequalities in health and behaviour: application of novel approaches to identify health inequality in Scotland and England to inform policy'*. Delegates attending were from Scottish Government, NHS Scotland and the academic sector.
- [Anne Ludbrook](#) took part in the MESAS (Monitoring and Evaluating Scotland's Alcohol Strategy) Expert Seminar. The purpose of the meeting was to review the findings that had emerged from the evaluation of Scotland's Alcohol Strategy, to identify any critical gaps in the evaluation studies and to discuss further ways to exploit data available for the evaluation.
- Workshops to the Health Economics Network for Scotland (HENS) in June and October on *'Identifying, appraising and applying health economics evidence for public health'* [McNamee, P.](#), [Scotland, G.](#), [Neilson, A.R.](#) and [Fraser, C.](#)

Policy Publications included:

- ‘The nature and extent of food poverty’, NHS Health Scotland. Douglas, F., Ejebu, O.-Z., Garcia, A., MacKenzie, F., Whybrow, S., McKenzie, L., Ludbrook, A. and Dowler, E.
- ‘Special focus III: How does minimum unit pricing for alcohol affect different types of drinkers?’ Ludbrook, A., in Sassi, F. (ed.) *Tackling Harmful Alcohol Use: Economics and Public Health Policy*, Paris, France: OECD Publishing.

Engagement with Stakeholders:

- **Mandy Ryan** gave an invited presentation on ‘*Valuing the patient experiences and going beyond QALYs in HTA*’, at the 3rd Annual Healthcare Improvement Scotland (HIS) Research Symposium: Bringing Evidence Together’. This event was to celebrate the strategic alliance between HIS, the Health Services Research Unit (HSRU) and HERU.
- **Aileen Neilson** also gave a poster presentation at this event on ‘*Are socio-demographic and economic variables associated with ICECAP-O values?*’.
- **Memberships of Government Advisory Committees continued**, examples include the Scottish Health Technologies Group; National Institute for Health and Care Excellence (NICE) Programme Advisory Group; Technical Advisory Group on Resource Allocation (TAGRA) and Scottish Medicines Consortium (SMC).

Public Engagement activities are an important feature of our dissemination strategy

In 2015 Public Engagement activities included:

- Presentations at *PechaKucha (Chit-Chat in Japanese) Event*, Belmont Filmhouse, Aberdeen:
 - Liam Mc Morrow** – ‘*Nudging people to make better decisions: is it ethical?*’.
 - Patricia Norwood** – ‘*Does calorie labelling need the green light? Findings from an eye tracking experiment*’.
- **Paul McNamee** was part of a BBC Scotland led panel at the University of Aberdeen May Festival. The topic was ‘*NHS2020 – What will our health services look like in five years’ time?*’.
- In September, **Patricia Norwood** and **Nicolas Krucien** took part in Explorathon 2015, which aimed to celebrate European Researchers’ Night in Aberdeen. Nicolas and Patricia had a stand at the Satrosphere Science Centre, where children and adults alike could take part in an eye-tracking experiment. The stand was very popular and the great feedback has encouraged us to look for opportunities to continue to interact with the public about our research.

ENHANCING CAPACITY

Building capacity in health economics is a HERU priority and in 2015 we contributed significantly towards this goal. We provided specialist training in health economics from undergraduate level to PhD level and we provided training in health economics for non-specialists.

Specialist training in health economics: from Undergraduate to PhD level

Undergraduate

At the University of Aberdeen we teach health economics to MA Economics students and we provided *three summer internships and one summer placement* to encourage economics undergraduates to consider a career in health economics. Internships run for up to six weeks and give a taste of health economics research with interns working alongside staff in HERU to learn about the variety of work we do. Interns undertake tasks such as assisting in the preparation and analysis of data, conducting literature reviews and assisting in writing up the results of research conducted in HERU.

The student interns for 2015 were: Ben Rothwell, University of Aberdeen; Chiara Pastore, University of York and Sam Altmann, London School of Economics.

Sam Altmann – investigated non-parametric analysis of discrete choice experiment responses with Verity Watson, and analysed eye-tracking data with Patricia Norwood and Nicolas Krucien.

Chiara Pastore – worked with Verity Watson researching cross-country comparison of preference-based weights for the Human Development Index, and on the retirement and health behaviour project with Paul McNamee.

Ben Rothwell – contributed to the Traditional Haemorrhoidectomy or Stapled Haemorrhoidopexy (eTHoS) trial with Mary Kilonzo and conducted a literature search on delayed discharges in hospitals with Patricia Norwood.

Heleen Vellekoop – our summer placement from the University of York, worked on our Health Foundation funded project which employed a discrete choice experiment to understand patient preference for support for self-management. Working with the research team, Heleen conducted 'think-aloud' interviews to provide insight into respondents understanding of personalised attributes within a DCE.



From left to right: Sam, Chiara and Ben



Postgraduate

During 2015 our commitment to postgraduate training continued with our [MSc Economics of Health](#). We also contributed to the teaching of the [MSc Applied Economics](#) at the University of Aberdeen, and will introduce a 'Health Pathway' from 2016/2017, and the MSc in Health Economics at the University of York.

MSc Dissertation Supervision:

We supervised a number of MSc dissertations over the summer:

- Uma Thomas – *'The role of time preference and cognitive ability in the education health relationship'*. Uma was awarded the Gavin Mooney Research Prize for the best MSc Economics of Health dissertation.
- Alexander van Doornewaard – *'The role of survey mode upon attribute non-attendance: a stated approach'*.
- Meryl Floor Heggeland – *'Responsiveness of health outcome measures: disease specific and generic measures in chronic widespread pain'*.
- Elisabet Jacobsen – *'The use of value of information analysis for health technology decision making'*.
- Jesufunsho Kolade-Ernest – an MSc student from the University of York, completed her dissertation placement with HERU over the summer. The project considered *'determinants of specialty choice, focussing on the role of specialty characteristics'*.

PhD supervision




Nine PhD students, including three new students, are being supervised for PhDs in health economics:

- Antje Tockhorn-Heidenreich – *Exploring the role for patients' values in health technology assessment: a mixed methods approach*, funded by the ESRC Scottish Graduate School of Social Science Doctoral Training Centre Health Pathway. In 2015, Antje continued working on a thematic analysis required for the second chapter of her PhD and identified initial ideas about themes identified in patient stories submitted to the National Institute for Health and Care Excellence (NICE) alongside patient group submissions. These were further explored and tested on additional data sources with additional analysis. After initial familiarisation with the qualitative evidence, she has been developing a coding framework, classified patterns that emerge as latent topics and worked on the development of a conceptual map. In addition, she presented a paper, which will form her first empirical chapter, at the 2nd Annual European Association of Health Economics PhD Student-Supervisor Conference in Paris.
- Sebastian Heidenreich – *Do I care or do I not? An empirical assessment of decision heuristics in discrete choice experiments*, funded by the Institute of Applied Health Science (IAHS) PhD Studentship. In 2015, the PhD investigated if respondents in a discrete choice experiment can reflect on whether they considered all relevant information. The results suggest that respondents'

introspection on their cognitive processes is biased. This means that self-reports are not suitable for exploring how individuals process information in a discrete choice experiment. The PhD also identified simplifying choice behaviour using statistical models that account for choice difficulty. The results show that respondents use uninformative decision heuristics if choices are too easy or too difficult. This raises the questions about the optimal design complexity of discrete choice experiments.

- **Liam McMorrow** – *Economic aspects of food choice and its association with health inequalities in Scotland and the UK*, funded by the Rowett Institute of Nutrition and Health, University of Aberdeen. 2015 saw Liam undertake an online discrete choice experiment investigating the effects of a tax on snack food choices. Results suggest displaying the tax rate influences snack food choices. Liam also collected primary data to investigate how time preferences are associated with diet quality. Work from the first chapter of Liam’s PhD thesis, perceived barriers towards healthy eating and their association with a healthy diet, has been submitted for publication and is currently under review.
- **Gin Nie Chua** – *Assessment of the external validity of discrete choice experiment: an application in pharmacy* funded by the Commonwealth Scholarship Commission in the UK. A novel field experiment aimed at assessing the external validity of a DCE was developed using the context of a community pharmacy health check service. Following ethics clearance, primary data collection was conducted throughout 2015. In the coming year, focus will be on data analysis specifically looking at certainty scales calibration in choice modelling and qualitative analysis to provide more insight on external validity.
- **Alastair Irvine** – *The role of time preference in the medical decision making context*, funded by the Institute of Applied Health Science (IAHS) PhD Studentship. In 2015, Alastair designed a Scotland-wide time preference survey for GPs to explore any gap between professional or personal time preferences. Data collection will commence in early 2016. Alastair has also been working on a theoretical model of the patient doctor interaction, to examine how information hidden from the patient (the available treatments) and the doctor (patient’s time preference) can explain issues such as surgery non-attendance and drug non-adherence. This is being developed into a lab experiment to provide further insight into the medical decision making process.
- **Laura Dysart** – *Applying Economic Methods to Optimise Self-Management*, funded by the HERU PhD studentship, University of Aberdeen. In 2015, Laura produced a working paper investigating the role of time and risk preference on self-management of chronic health conditions using the English Longitudinal Study of Ageing, which was presented as a poster at the 2nd Annual European Association of Health Economics PhD Student-Supervisor Conference in Paris. Results of the investigation found that the rate of time preference was significantly correlated with maintenance of physical activity and alcohol abstinence over time but not commencement of such behaviours.

We warmly welcomed **three new PhD students** to HERU:

- **Ruben Sakowsky** – Ruben joined HERU in September 2015. His PhD title is ‘Resource allocation in health care: communitarian and liberal approaches’ and is funded by the Gavin Mooney Studentship. This research focuses on *evaluating justification and decision-making schemes for resource allocation in health care*. Ruben will be investigating if, and how, deliberative models of preference evaluation can inform the framework of policy makers. Ruben is also interested in matters of deliberative democracy, justice theory, questions concerning democratic representation and inclusion, and the relationship between community values, individual interests and utility maximisation in health care. 
- **Uma Thomas** – Uma joined HERU as a part-time PhD student at the beginning of October 2015 having just completed our MSc in Health Economics. The title of her PhD is ‘*Using insights into time preference and present bias to develop an intervention to improve adherence to exercise*’. It is a cross-disciplinary project with Professor Marjon van der Pol as the primary supervisor and Dr Julia Allan from Health Psychology as second supervisor. The PhD is funded by the Institute of Applied Health Sciences and aims to develop and test an interactive web-based tool that improves an individual’s adherence to exercise by taking into account their time preference. 
- **Kevin Momanyi** – Kevin joined HERU in October 2015 and will be working with Professor Paul McNamee and Dr Diane Skåtun on an ESRC/Scottish Government funded studentship entitled ‘*Enhancing quality in social care through economic analysis*’. He holds an MSc in Health Economics and Policy and a BSc in Economics and Statistics from the University of Nairobi. His research interests include econometric modeling, health policy analysis and economic evaluation in health care. 

Staff PhDs:

Dwayne Boyers continues his part-time PhD on ‘*Measuring value within an economic evaluation framework: a case study of dental care*’ and **Rodolfo Hernández** had a successful viva with minor changes on his PhD ‘*Broadening the valuation space in Health Technology Assessment: the case of monitoring individuals with ocular hypertension*’.

Supervision of PhD students out-with HERU continues with:

- Jovan Vojnovic – *Time preferences and health*, (Behavioural Science Centre, University of Stirling, HERU supervisor: **Marjon van der Pol**).

Training in health economics for non-specialists

HERU Expert Workshop: 'Using Discrete Choice Experiments in health economics: theoretical and practical issues'.

- HERU's three-day expert workshop on *Discrete Choice Experiments (DCEs)* ran again in Aberdeen from the 4th – 6th November 2015. The workshop also ran in March 2015. This popular workshop is aimed at those interested in the application of DCEs in health economics. It focuses on the practical and theoretical issues raised when applying the technique. The workshop is of interest to those with no or limited experience in the application of DCEs.
- March 2015, in collaboration with the O'Brien Institute for Public Health at the University of Calgary, at the Banff Conference Centre, Alberta, Canada.
- The aims of the DCE expert workshops are to provide background information about the theoretical basis for, and development and application of, DCEs in health economics; give hands on experience of the design of DCEs, data input, analysis and interpretation; and provide an update on methodological issues raised in the application of DCEs.

This workshop is run annually in Aberdeen. For further information please visit: <http://www.abdn.ac.uk/heru/courses/workshops/annual-dce-workshop/>



Delegates and presenters from the November 2015 DCE Expert Workshop (Aberdeen)

- HERU's [Postgraduate Certificate in Health Economics](#) by distance learning has been running for over 30 years. This course is aimed at individuals who want to familiarise themselves with the methods used by health economists to aid the allocation of scarce health care resources. No experience of economics is necessary. In 2015 we welcomed 22 new students to the course including those from Scotland (6), England/Wales (8), Europe (1) and overseas (7) including India, Singapore, United Arab Emirates, Vietnam and Australia. Students come from both public and private sectors.

For further information please visit: <http://www.abdn.ac.uk/heru/courses/pgcert/>



UK Delegates for 2015/16 Postgraduate Certificate in Health Economics Distance Learning Course

ENHANCING CAPACITY

- In June and October Paul McNamee, Graham Scotland and Aileen Neilson from HERU, and Cynthia Fraser from the Health Services Research Unit, delivered workshops on 'Identifying, appraising and applying health economics evidence for public health'. The workshops were ran on behalf of the Health Economics Network for Scotland (HENS) and attendees included health care managers and finance directors. Presentations on the critical appraisal of economic evaluations were followed up with group work and participant case studies. Other workshops are being planned for 2016. Information will be provided on our website <http://www.abdn.ac.uk/heru/courses/workshops>.



*Aileen Nielson, Research Fellow, HERU –
Poster Presentation at HENS Workshop*



HENS Workshop – November 2015 Delegates

- HERU also taught health economics on a range of programmes at the University of Aberdeen, including Medicine in Economics, MSc in Public Health Research and MSc in Global Health.

Details of our Capacity Building activities can be found at <http://www.abdn.ac.uk/heru/courses/>



*Projects, Publications
and Presentations...*

PROJECTS IN PROGRESS

All project descriptions appear on our web pages
See: www.abdn.ac.uk/research for more details

*Denotes projects started in 2015

ASSESSMENT OF TECHNOLOGIES

Economic evaluations alongside randomised controlled trials – Centre for Health Care Randomised Controlled Trials (CHaRT):

Adjustable anchored Single Incision Mini Slings versus standard tension free mid urethral slings in the surgical management of female stress urinary incontinence: a pragmatic multicentre non inferiority randomised controlled trial (the SIMS Trial).

Investigators: M Abdel Fattah (University of Aberdeen); R Assassa (Mid Yorkshire Hospitals NHS Trust); **M Kilonzo** (HERU); G MacLennan, K McCormack, J Norrie (HSRU, University of Aberdeen); J Wardle (Continence Foundation) and J N'Dow (University of Aberdeen).

Source of Funding: National Institute for Health Research, Health Technology Assessment (HTA) Programme.

**The clinical and cost effectiveness of surgical interventions for stones in the lower pole calyces of the kidney: the PUrE RCT.*

Investigators: S McClinton (NHS Grampian); D Smith (UCLH NHS Foundation Trust); B Turney (University of Oxford); R Pickard (Newcastle University); R Thomas, J Norrie, K Starr (HSRU, University of Aberdeen); G MacLennan (Department of Pathology, University of Aberdeen); S MacLennan (Academic Urology Unit, University of Aberdeen) and **R Hernández** (HERU).

Source of Funding: National Institute for Health Research, Health Technology Assessment (HTA) Programme.

Comparison of Laser, Surgery and foam Sclerotherapy (CLASS). A randomised controlled trial, with conventional surgery as a treatment for varicose veins (Five-year follow-up).

Investigators: J Brittenden, C Ramsay, M Campbell, J Norrie, S Cotton (HSRU, University of Aberdeen); **G Scotland** (HERU/HSRU, University of Aberdeen); J Burr (University of St Andrews); I Chetter (Hull NHS Trust); P Bachoo (University of Aberdeen); J Earnshaw (Vascular Surgery, Gloucestershire Royal Hospital, Gloucester); B Campbell (Royal Devon and Exeter Hospital and University of Exeter Medical School); S Baker (Vascular Surgical Unit, Royal Bournemouth Hospital, Bournemouth); T Lees (Vascular Surgery, Freeman Hospital, Newcastle upon Tyne) and J Scott (Vascular Surgery, St. James University Hospital, Leeds).

Source of Funding: National Institute for Health Research, Health Technology Assessment (HTA) Programme.

eiTher Haemorrhoidectomy or Stapled haemorrhoidopexy for haemorrhoidal disease: a pragmatic multicentre randomised controlled trial comparing stapled haemorrhoidopexy to conventional excisional haemorrhoidectomy (eTHoS).

Investigators: AJ Watson (NHS Highland); M Loudon (Aberdeen Royal Infirmary); **M Kilonzo** (HERU); D Jayne (Leeds Teaching Hospitals NHS Trust); A Maw (Glan Clwyd Hospital); F Curran (Stepping Hill Hospital); S Brown (Northern General Hospital); J Cook (HSRU, University of Aberdeen); J Burr (University of St. Andrews) and B Buckley (National University of Ireland).

Source of Funding: National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme.

Improving the Quality of Dentistry: a randomised controlled trial comparing oral hygiene advice and periodontal instrumentation for the prevention and management of periodontal disease in dentate adults attending dental primary care (IQuaD).

Investigators: J Clarkson, D Bonetti, N Pitts (University of Dundee); C Ramsay (HSRU, University of Aberdeen); J Burr (University of St. Andrews); H Worthington, C Jones, M Tickle (University of Manchester Dental Hospital); P Heasman, J Steele (University of Newcastle); L Young, I Madden, W McCombes (NHS Education for Scotland); P Hodge (University of Glasgow Dental School); M Ross (University of Edinburgh); D Ricketts, A Hall (Dundee Dental Care Hospital & School); P Averley (Queensway Dental Practice) and **M van der Pol** (HERU).

Source of Funding: National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme.

Investigation of NICE Technologies for Enabling Risk-Variable-Adjusted-Length dental recalls trial (INTERVAL).

Investigators: N Pitts, J Clarkson, D Bonetti, R Freeman, D Ricketts (University of Dundee); C Ramsay, (HSRU, University of Aberdeen); H Worthington (University of Manchester); **M van der Pol** (HERU); T Anderson, W McCombes, L Young (NHS Education for Scotland); F Burke, D White (University of Birmingham); G Douglas (University of Leeds); R Gorter (University of Amsterdam); R Herbert (University of Cardiff); P Hodge (University of Glasgow); G Humphris (University of St. Andrews); T Mettes (Radboud University, NIJMEJEN Medical Centre, The Netherlands); I Needleman (UCL Eastman Dental Institute) and M Ross (University of Edinburgh).

Source of Funding: National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme.

Male synthetic sling versus Artificial urinary Sphincter Trial for men with urodynamic stress incontinence after prostate surgery: Evaluation by Randomised trial (MASTER).

Investigators: P Abrams (North Bristol NHS Trust); M Drake (University of Bristol); C Glazener (HSRU, University of Aberdeen); R Pickard (University of Newcastle upon Tyne); J Norrie, C Ramsay, C Boachie, K McCormack (HSRU, University of Aberdeen); **M Kilonzo** (HERU); G McPherson, A McDonald (HSRU, University of Aberdeen) and N Cotterill (University of Bristol).

Source of Funding: National Institute for Health Research, Health Technology Assessment (HTA) Programme.

A multicentre randomised controlled trial comparing laparoscopic supracervical hysterectomy with second generation endometrial ablation for the treatment of heavy menstrual bleeding (HEALTH).

Investigators: S Bhattacharya (Obstetrics & Gynaecology, University of Aberdeen); K Cooper (NHS Grampian); TJ Clark (Birmingham's Women's Hospital); J Hawe (Countess of Chester NHS Foundation Trust); K Phillips (Hull and East Yorkshire Hospitals NHS Trust); R Hawthorne (NHS Greater Glasgow & Clyde); J Norrie (CHaRT, HSRU); J Cook, K McCormack (HSRU, University of Aberdeen) and **G Scotland** (HERU/HSRU, University of Aberdeen).

Source of Funding: National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme.

Multicentre randomised trial of the effectiveness and cost-effectiveness of basic versus intensive, biofeedback-assisted pelvic floor muscle training for female stress or mixed urinary incontinence (OPAL-Optimal PFMT for Adherence Long-term).

Investigators: S Hagen, D McClurg, J Booth (Glasgow Caledonian University); C Glazener, J Francis, J Norrie, A Elders, A McDonald, G McPherson, N Kolehmainen (HSRU, University of Aberdeen); A Wael (NHS Ayrshire and Arran); M Abdel-Fattah (University of Aberdeen); C Bugge (University of Stirling); B Buckley (Independent); S Dean (University of Exeter); **M Kilonzo** (HERU); H Smith (University of Otago, NZ); KL Guerrero (Clinical expert) and LE Wilson (User).

Source of Funding: National Institute for Health Research, Health Technology Programme (HTA).

PROJECTS IN PROGRESS

A pragmatic adaptive sequential placebo controlled randomised trial to determine the effectiveness of Glycerine triturate for retained placenta (Got-it trial).

Investigators: F Denison, J Norman, J Lawton (University of Edinburgh); J Norrie, G McPherson (HSRU, University of Aberdeen); **G Scotland** (HERU/HSRU, University of Aberdeen) and S Brook-Smith (Edinburgh Royal Infirmary).

Source of Funding: National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme.

Therapeutic Interventions for Stones of the Ureter: a multicentre randomised controlled trial of extracorporeal shockwave lithotripsy, as first treatment option, compared with direct progression to ureteroscopic retrieval, for ureteric stones (TISU).

Investigators: S McClinton, L Kurban (NHS Grampian); J N'Dow, S MacLennan, T Lam (Academic Urology Unit, University of Aberdeen); G MacLennan, J Norrie, R Thomas, K Starr (HSRU, University of Aberdeen); **M Kilonzo** (HERU); F Keely (Southmead Hospital); K Anson (St Georges NHS Trust); C Clark (Service User); R Pickard (Newcastle University) and N Burgess (Norfolk and Norwich University Hospital).

Source of Funding: National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme.

Vault or Uterine prolapse surgery Evaluation: two parallel randomised controlled trials of surgical options for upper compartment (uterine or vault) pelvic organ prolapsed (VUE).

Investigators: C Glazener, S Breeman, G McPherson, A McDonald, J Norrie, A Elders (HSRU, University of Aberdeen); IBG Montgomery, (University of Aberdeen); S Hagen (Glasgow Caledonian University); ARB Smith (St. Mary's Hospital Manchester); RM Freeman (Plymouth Hospital NHS Trust); C Bain, K Cooper (NHS Grampian) and **M Kilonzo** (HERU).

Source of Funding: National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme.

Other Trials Projects:

**A model based cost-effectiveness analysis of opportunistic screening for identifying (undetected) atrial fibrillation (AF).*

Investigators: **A Neilson** (HERU); **G Scotland** (HERU/HSRU, University of Aberdeen) and **E Tassie** (HERU).

Source of Funding: Digital Health Institute and Chief Scientist Office (CSO) CORE.

Does oral sodium bicarbonate therapy improve function and quality of life in older patients with chronic kidney disease and low-grade acidosis? A randomised controlled trial.

Investigators: M Witham (University of Dundee); A Avenell, (HSRU, University of Aberdeen) and **P McNamee** (HERU).

Source of Funding: National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme.

Maintained physical activity and physiotherapy in the management of distal arm pain.

Investigators: G Jones, G Macfarlane (University of Aberdeen); K Palmer (University of Southampton); D Coggon (University of Southampton); K Burton (University of Huddersfield); K Walker-Bone (Brighton and Sussex NHS Trust); S Lamb (University of Warwick); **P McNamee** (HERU) and A McConnachie (University of Glasgow).

Source of Funding: Arthritis Research UK (ARUK) and the University of Aberdeen.

**A randomised controlled trial evaluating the clinical and cost-effectiveness of a policy of freezing all embryos followed by thawed frozen embryo transfer, compared with a policy of fresh embryo transfer in women undergoing in-vitro fertilization (E-FREEZE).*

Investigators: A Mahashwari (NHS Grampian); N Macklon (University of Southampton); Y Khalaf (Guy's and St Thomas Hospital); S Lavery (Hammersmith Hospital); T Child, E Juszczak, P Hardy, J Kurinczuk (University of Oxford); M Rajkohwa (Birmingham's Women's Hospital); A Coomarasamy (University of Birmingham); R Cutting (University of Sheffield); D Brison (Central Manchester University Hospital NHS Trust); S Troup (Liverpool Women's Hospital); C Lewis-Jones (Infertility Network, UK); N Raine-Fenning (University of Nottingham); S Bhattacharya (Obstetrics & Gynaecology, University of Aberdeen) and **G Scotland** (HERU/HSRU, University of Aberdeen).

Source of Funding: National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme.

Methodological projects:

PhD: Measuring value within an economic evaluation framework: a case study of dental care.

Investigators: **D Boyers** (HERU/HSRU, University of Aberdeen); **M van der Pol** and **V Watson** (HERU).

Source of Funding: National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme, the University of Aberdeen and the Chief Scientist Office (CSO) CORE.

Projects based on observational cohorts:

British Society for Rheumatology Biologics Register in Ankylosing Spondylitis (BSRBR-AS).

Investigators: G Macfarlane, G Jones (Institute of Applied Health Sciences, University of Aberdeen); **P McNamee** (HERU); K Hyrich, K Watson, M Lunt, D Symmons (Arthritis Research UK Epidemiology Unit, University of Manchester); R Sturrock (Centre for Rheumatic Diseases, University of Glasgow) and L Kay (Freeman Hospital, Newcastle).

Source of Funding: British Society for Rheumatology and the University of Aberdeen.

**Early detection of neovascular age-related macular degeneration (EDNA).*

Investigators: U Chakravarthy, R Hogg (Queen's University Belfast); C Ramsay, K Bainster, J Cook, A Azuara-Blanco (HSRU, University of Aberdeen); **G Scotland** (HERU/HSRU, University of Aberdeen); S Sivaprasad (Moorfields Eye Hospital NHS Foundation Trust) and H Heimann (Royal Liverpool & Broadgreen University Hospitals NHS Trust).

Source of Funding: National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme.

Scottish cervical cancer prevention programme: assessing and modelling the impact of HPV 16/18 immunisation on the performance of current cervical screening and the effectiveness of alternative cervical screening strategies to optimise cancer prevention in the HPV immunisation era.

Investigators: M Cruickshank (University of Aberdeen); C Campbell (University of Edinburgh); Y Choi (Health Protection Agency); H Cubie (Lothian University NHS Trust); K Cuschieri (Edinburgh Royal Infirmary); M Donaghy (Health Protection Scotland); J Imrie (Monklands General Hospital); C Robertson (Health Protection Scotland & University of Strathclyde); F Sullivan (University of Dundee); **P McNamee** (HERU) and D Weller (University of Edinburgh).

Source of Funding: Chief Scientist Office (CSO) Health Services and Population Health Research Committee and the University of Aberdeen.

PROJECTS IN PROGRESS

HEALTH BEHAVIOUR AND INEQUALITY

Analyses of the causal interactions between health and education.

Investigators: **Y Aoki** (HERU) and L Santiago (Office for National Statistics).

Source of Funding: The University of Aberdeen.

Analysis of choice behaviour and potential mechanisms of change.

Investigators: P Morgan (Rowett Institute of Health and Nutrition, University of Aberdeen) and **A Ludbrook** (HERU).

Source of Funding: Scottish Government (Rural and Environment Science and Analytical Services Division RESAS) via Rowett Institute of Nutrition and Health and Chief Scientist Office (CSO) CORE.

**PhD: Applying economic methods to optimise self-management.*

Investigators: **L Dysart** (PhD Student, HERU); **P McNamee** and **M van der Pol** (HERU).

Source of Funding: University of Aberdeen.

DEterminants of Diet and Physical Activity (DEDIPAC).

Investigators: **A Ludbrook** (HERU); J Allan (Health Psychology, University of Aberdeen) and F Douglas, G McNeill (Rowett Institute of Nutrition and Health, University of Aberdeen).

Source of Funding: Medical Research Council and Chief Scientist Office (CSO) CORE.

PhD: Economic aspects of food choice and its association with health inequalities in Scotland and the UK.

Investigators: **L Mc Morrow** (PhD Student, HERU); **A Ludbrook**, **D Olajide** (HERU) and J MacDiarmid, (Rowett Institute of Nutrition and Health, University of Aberdeen).

Source of Funding: Scottish Government (Rural and Environment Science and Analytical Services Division RESAS) via Rowett Institute of Nutrition and Health and Chief Scientist Office (CSO) CORE.

Health, income and the measurement of social welfare in developing countries.

Investigators: **R Abul Naga** (HERU) and T Yalcin (University of Lausanne).

Source of Funding: University of Aberdeen.

**Maintaining Musculoskeletal Health (MAmMOTH) Study.*

Investigators: G MacFarlane, G Jones (Epidemiology Group, University of Aberdeen); **P McNamee** (HERU); N Basu (School of Medical Sciences and Nutrition, University of Aberdeen); M Artus, J McBeth (Keele University); S Kean (University of Glasgow); K Lovell, P Keeley (University of Manchester); P Hannaford (Life Sciences and Medicine, University of Aberdeen); G Prescott (Medical Statistics Team, University of Aberdeen) and J Norrie (CHART, University of Aberdeen).

Source of Funding: Arthritis Research UK and the University of Aberdeen.

Measurement and determinants of inequalities in health and well-being in the Middle-Eastern and North African region.

Investigators: **R Abul Naga** (HERU); Y Arrighi (Lille); M Abu-Zaineh, B Ventelou, ME Woode (Marseille); I Ayadi (University of Tunis); A Boutayeb (University Mohammed Premier, Morocco); A Mataria (World Health Organization, Regional Office for the Eastern Mediterranean); S Abdulrahim (American University of Beirut) and N Salti (American University of Beirut).

Source of Funding: University of Aberdeen.

Modelling purchasing behaviour for alcohol.

Investigators: **A Ludbrook**, **L McKenzie** and **O-Z Ejebu** (HERU).

Source of Funding: Chief Scientist Office (CSO) CORE and the University of Aberdeen.

PhD: The role of time preference in the medical decision making context.

Investigators: **A Irvine** (PhD Student, HERU); **M van der Pol** (HERU) and E Phimister (University of Aberdeen Business School).

Source of Funding: Institute of Applied Health Sciences PhD Studentship and the University of Aberdeen.

The socio-economic status and integration of immigrants in the UK: the role of language skills and education.

Investigators: **Y Aoki** (HERU) and L Santiago (Office for National Statistics).

Source of Funding: University of Aberdeen, Carnegie Trust and Scottish Institute for Research in Economics.

Time preferences and health behaviours.

Investigators: **M van der Pol** (HERU).

Source of Funding: University of Aberdeen.

**PhD: Using insights into time preference and present bias to develop an intervention to improve adherence to exercise.*

Investigators: **U Thomas** (PhD Student, HERU); **M van der Pol** (HERU) and J Allan (Health Psychology, University of Aberdeen).

Source of Funding: Institute of Applied Health Sciences, University of Aberdeen.

WORKFORCE AND ORGANISATION OF CARE

**PhD: Enhancing quality in social care through economic analysis.*

Investigators: **K Momanyi** (PhD Student, HERU); **P McNamee** and **D Skåtun** (HERU).

Source of Funding: Scottish Government – Scottish Graduate School Doctoral Training Centre and the Economic and Social Research Council (ESRC).

Health Care Reform: the iMPact on practice, oUtcomes and costs of New roles for health pROfeSsionals (MUNROS).

Investigators: **R Elliott** (HERU); C Bond (Centre of Academic Primary Care, University of Aberdeen); A de Bont (Erasmus University); R Busse (Technische Universität Berlin); M Ruggeri (Università Cattolica del Sacro Cuore); M Mijas (University of Warsaw); H Svobodová (Charles University Prague); U Özlale (Economic Policy Research Foundation of Turkey); JE Askildsen (Uni Research Norway) and M Sutton (University of Manchester).

Source of Funding: European Commission FP7.

How to attract health workers to rural areas in low and middle income countries: A discrete choice experiment from Senegal.

Investigators: **M Ryan**, **N Krucien** (HERU); A Honda (University of Cape Town); M Nagai and N Fujita (National Centre for Global Health and Medicine, Japan).

Source of Funding: Chief Scientist Office (CSO) CORE and the University of Aberdeen.

PROJECTS IN PROGRESS

**Impact of job-satisfaction, mental illness and absenteeism in the public sector.*

Investigators: **O-Z Ejebu** and **D Skåtun** (HERU).

Source of Funding: University of Aberdeen and Chief Scientist Office (CSO) CORE.

The role of pay competitiveness and nurse agency staffing.

Investigators: **D Skåtun** (HERU) and JB Coombes (Aix-Marseille Université).

Source of Funding: Chief Scientist Office (CSO) CORE.

Understanding push-pull factors in medical careers decision making.

Investigators: **D Skåtun**, **V Watson** and **N Krucien** (HERU).

Source of Funding: NHS Education for Scotland and Chief Scientist Office (CSO) CORE and the University of Aberdeen.

Using discrete choice experiments to investigate optimal skill mix.

Investigators: T Porteous, C Bond, A Elliott, AP Hannaford, P Murchie (Academic Primary Care, University of Aberdeen) and **M Ryan** (HERU).

Source of Funding: Chief Scientist Office (CSO) CORE.

**PhD: What the doctor does next: a mixed methods study of career decision making in Foundation Programme Doctors.*

Investigators: G Scanlan (PhD Student, Medical & Dental Education, University of Aberdeen and HERU); J Cleland (Medical & Dental Education, University of Aberdeen) and **D Skåtun** (HERU).

Source of Funding: NHS Education for Scotland and Chief Scientist Office (CSO) CORE.

METHODS OF BENEFIT VALUATION

Hypothetical bias in stated preference tasks projects:

PhD: Assessment of the external validity of discrete choice experiment: an application in pharmacy.

Investigators: **GN Chua** (PhD Student, HERU); **M Ryan** (HERU); C Bond (Academic Primary Care) and T Porteous (HSRU, University of Aberdeen).

Source of Funding: Commonwealth Scholarship Commission UK.

Does an oath improve demand revelation in discrete choice experiments?

Investigators: **V Watson** (HERU); S Luchini (GREQAM); N Jacquemet (University of Paris) and J Shogren (University of Wyoming).

Source of Funding: Chief Scientist Office (CSO) CORE.

A qualitative investigation into the external validity of contingent valuation responses.

Investigators: **M Ryan** (HERU); C Bond (Academic Primary Care, University of Aberdeen) and D Glynn (Centre for Health Economics, University of York).

Source of Funding: Chief Scientist Office (CSO) CORE.

Decision heuristics projects:

PhD: Do I care or do I not? An empirical assessment of decision heuristics in discrete choice experiments.

Investigators: **S Heidenreich** (PhD Student, HERU); **M Ryan, V Watson** (HERU) and E Phimister (University of Aberdeen Business School).

Source of Funding: Institute of Applied Health Science (IAHS) Flagship PhD Studentship and Chief Scientist Office (CSO) CORE.

How do individuals respond to DCEs? Alternatives to utility maximisation.

Investigators: **N Krucien, V Watson** and **M Ryan** (HERU).

Source of Funding: Chief Scientist Office (CSO) CORE and University of Aberdeen.

Using eye tracking methods to understand decision-making heuristics in discrete choice experiments.

Investigators: **M Ryan, N Krucien** (HERU) and F Hermans (School of Psychology, University of Lincoln).

Source of Funding: Chief Scientist Office (CSO) CORE and University of Aberdeen.

Using induced experiments to infer decision making strategies in discrete choice experiments.

Investigators: **V Watson** (HERU) and S Luchini (GREQAM, Marseille).

Source of Funding: Chief Scientist Office (CSO) CORE.

Framing and context effects projects:

Are responses to discrete choice experiments coherent, arbitrary or coherently arbitrary?

Investigators: **V Watson** and **M Ryan** (HERU).

Source of Funding: Chief Scientist Office (CSO) CORE.

Value transfer analysis in health care.

Investigators: **V Watson** (HERU) and K Gerard (University of Southampton).

Source of Funding: Chief Scientist Office (CSO) CORE.

Valuing patient experience factors projects:

An evaluation of patient preferences for the treatment of localised prostate cancer.

Investigators: HU Ahmed, M Emberton (UCL); **V Watson, D Ikenwilo** and **N Krucien** (HERU).

Source of Funding: University College London (UCL); Chief Scientist Office (CSO) CORE and the University of Aberdeen.

PhD: Exploring the role for patients' values in health technology assessment: a mixed methods approach. (This PhD spans across both the Assessment of Technologies and the Methods of Benefit Valuation theme).

Investigators: **A Tockhorn-Heidenreich** (PhD Student, HERU); **M Ryan** (HERU) and **G Scotland** (HERU/HSRU, University of Aberdeen).

Source of Funding: ESRC Scottish Graduate School in Social Sciences (SGSSS) – Doctoral Training Centre (Health Pathway) PhD Studentship and the Chief Scientist Office (CSO) CORE.

PROJECTS IN PROGRESS

Choice of valuation perspective projects:

**Gatekeeping in intensive care: understanding and improving the decision-making process surrounding admission to the intensive care unit.*

Investigators: C Bassford, F Griffiths, G Perkins, S Quinton, K Rees, AM Slowther (University of Warwick); **N Krucien** and **M Ryan** (HERU).

Source of Funding: National Institute for Health Research (NIHR) Health Service and Delivery Programme.

**PhD: Resource allocation in health care: communitarian and liberal approaches.*

Investigators: **R Sakowsky** (PhD student, HERU); **M Ryan** (HERU) and V Entwistle (HSRU, University of Aberdeen).

Source of Funding: Gavin Mooney Studentship and Chief Scientist Office (CSO) CORE.

Re-thinking "the different perspectives that can be used when eliciting preferences in health".

Investigators: **V Watson** (HERU) and A Tsuchiya (ScHAAR, University of Sheffield).

Source of Funding: Chief Scientist Office (CSO) CORE.

ASSESSMENT OF TECHNOLOGIES

Evidence synthesis projects

Clinical and cost-effectiveness of open mesh repairs in adults presenting with a clinically diagnosed unilateral, primary inguinal hernia who are operated on in an elective setting.

Investigators: M Brazelli, P Sharma, M Cruikshank, C Fraser, L Kemp, C Ramsay (HSRU, University of Aberdeen); **D Boyers** (HERU/HSRU, University of Aberdeen); NW Scott (University of Aberdeen); **R Hernández** (HERU) and I Ahmed (NHS Grampian).

Source of Funding: National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme.

Collagenase clostridium histolyticum for treating Dupuytren's contracture.

Investigators: M Brazzelli, M Cruickshank, A Elders, C Fraser, C Ramsay, C Robertson (HSRU, University of Aberdeen); **R Hernández**, **P McNamee**, **E Tassie** (HERU) and D Lawrie (Woodend Hospital, Aberdeen) for the Aberdeen Assessment of Technologies Group.

Source of Funding: National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme and the University of Aberdeen.

Economic evaluations alongside randomised controlled trials – Centre for Health Care Randomised Controlled Trials (CHaRT):

Clinical and cost effectiveness of surgical options for the management of anterior or posterior vaginal wall prolapse: pragmatic evaluation by multicentre randomised controlled trial PROlapse Surgery: Pragmatic Evaluation and randomised Controlled Trial (PROSPECT).

Investigators: C Glazener, A Grant, J Norrie, G MacLennan, A McDonald, G McPherson (HSRU, University of Aberdeen); **D Boyers** (HERU/HSRU, University of Aberdeen); **M Kilonzo** (HERU); ARB Smith (St. Mary's Hospital Manchester); RM Freeman (Plymouth Hospital NHS Trust); C Bain, K Cooper (NHS Grampian); S Hagan (Glasgow Caledonian University) and IBG Montgomery (Aberdeen).

Source of Funding: National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme.

Effectiveness in Angle closure Glaucoma of Lens Extraction (EAGLE).

Investigators: A Azuara-Blanco (Queens University, Belfast); C Ramsay, J Norrie (HSRU, University of Aberdeen); T Aung (Singapore National Eye Centre); J Burr (University of St. Andrews); P Foster (UCL); D Friedman (The Johns Hopkins Hospital); J Lai (United Christian Hospital); Da-Wen Lu (Tri-Service General Hospital); C Lui (Taipei Veterans General Hospital); W Nolan (Sandwell and West Birmingham Hospital); J See (National University Hospital); D Wong (University of Hong Kong) and **G Scotland** (HERU/HSRU).

Source of Funding: Medical Research Council (Trials Grant).

Methodological projects:

PhD: Broadening the valuation space in health technology assessment: the case of monitoring individuals with ocular hypertension.

Investigators: **R Hernández** (PhD Student, HERU); **M Ryan** (HERU); J Burr (University of St. Andrews) and L Vale (University of Newcastle Upon Tyne).

Source of Funding: Research Council UK (RCUK) Fellowship, the University of Aberdeen and Chief Scientist Office (CSO) CORE.

PROJECTS COMPLETED

Projects based on observational cohorts:

Is utilisation of a community pharmacy for provision of directing antivirals: a feasible delivery model for hepatitis C treatment in substance misusers.

Investigators: A Radley (NHS Tayside); J Dillon (University of Dundee) and **M van der Pol** (HERU).

Source of Funding: University of Aberdeen.

Modelling the cost-effectiveness of adopting risk stratified screening intervals within the national diabetic retinopathy screening programme in Scotland.

Investigators: **G Scotland** (HERU/HSRU, University of Aberdeen); H Looker, H Colhoun (University of Dundee); G Leese (NHS Tayside); P McKeigue (University of Edinburgh); J Olson and S Philip (NHS Grampian).

Source of Funding: Chief Scientist Office (CSO) Health Services and Population Health Research Committee and Chief Scientist Office (CSO) CORE.

Technologies to support Older People at home: maximising personal and Social interaction (TOPS).

Investigators: L Philip, P Schofield, P Edwards, J Farrington (University of Aberdeen); G Rodger (University of Highlands & Islands); F Williams (Institute of Rural Health, Wales); V Hanson (University of Dundee); **P McNamee** (HERU); P Oliver and P Wright (University of Newcastle).

Source of Funding: Research Council UK (RCUK) Digital Economy Research and the University of Aberdeen.

HEALTH BEHAVIOUR AND INEQUALITY

The nature and extent of food poverty/insecurity in Scotland.

Investigators: F Douglas, S Whybrow (Rowett Institute of Nutrition and Health, University of Aberdeen); A Garcia (University of Glasgow); **L McKenzie, A Ludbrook** (HERU) and E Dowler (University of Warwick).

Source of Funding: NHS Health Scotland and Chief Scientist Office (CSO) CORE.

WORKFORCE AND ORGANISATION OF CARE

Are 'potentially preventable hospitalisations' a valid measure of the quality and affordability of primary and community care in Australia?

Investigators: L Jorm (University of Western Sydney); A Leyland, F Blyth (MRC Social and Public Health Sciences Unit, Glasgow); **R Elliott, D Olajide, M van der Pol** (HERU); K Douglas (Royal North Shore Hospital); S Redman (The Mater Hospital, Sydney); Associate Investigators: N Board (ACSQHC); D Butler (APHCRI); D Lincoln, K Sutherland, D Watson (BHI); S Lujic (School of Medicine, UWS); K Needham and H Watt (ACI).

Source of Funding: National Health and Medical Research Council, (NHMRC) Australia, University of Aberdeen and Chief Scientist Office (CSO) CORE.

Avoidable Scottish Hospitalisations (ASH).

Investigators: **M van der Pol, R Elliott, D Olajide** (HERU); M Dusheiko, (University of York); B Guthrie (University of Dundee); L Jorm (University of Western Sydney) and A Leyland (MRC/CSO Social and Public Health Sciences Unit).

Source of Funding: Chief Scientist Office (CSO), Health Service and Population Health Research Committee and the Chief Scientist Office (CSO) CORE.

Push-pull factors in the medical careers decision making of medical students.

Investigators: J Cleland (University of Aberdeen); C Rees (University of Dundee); **D Skåtun**, **V Watson** (HERU); K Mattick (University of Exeter) and P Johnston (NHS Education for Scotland).

Source of Funding: NHS Education for Scotland and Chief Scientist Office (CSO) CORE.

METHODS OF BENEFIT VALUATION

*Hypothetical bias in stated preference tasks projects:**External validity of contingent valuation: a field experiment comparing hypothetical and real payments.*

Investigators: **M Ryan** (HERU); J Cairns (LSHTM); S Jareinpituk (Department of Dental Public Health, Mahidol University) and M Mentzakis (University of Southampton).

Source of Funding: Chief Scientist Office (CSO) CORE.

*Framing and context effects projects:**Health state valuation using discrete choice experiments and best-worst scaling: a comparison of methods.*

Investigators: **N Krucien**, **V Watson** and **M Ryan** (HERU).

Source of Funding: University of Aberdeen and Chief Scientist Office (CSO) CORE.

Task complexity and response certainty in discrete choice experiments.

Investigators: **V Watson** (HERU); D Regier (University of British Columbia, Canada); W Ungar and H Burnett (The Hospital for Sick Kids, Toronto, Canada).

Source of Funding: Chief Scientist Office (CSO) CORE.

*Valuing patient experience factors projects:**A discrete choice experiment to value the personalisation of support for self-management of chronic pain.*

Investigators: C Burton, T Porteous, A Elliott (Academic Primary Care, University of Aberdeen); **M Ryan**, **N Krucien** (HERU) and V Entwistle (HSRU, University of Aberdeen).

Source of Funding: Health Foundation.

Preferences for primary care delivery in Portugal.

Investigators: P Viega (University of Minho); **V Watson** and **P Norwood** (HERU).

Source of Funding: Portuguese Department of Health and Chief Scientist Office (CSO) CORE.

Forthcoming Journals

Andronis, L., Billingham, L.J., **Bryan, S.**, James, N.D. and Barton, P.M. (2015) 'A practical application of value of information and prospective payback of research to prioritize evaluative research', *Medical Decision Making*, [Epub ahead of print].

Eberth, B., **Elliott, R.F.** and **Skåtun, D.** (2015) 'Pay or conditions? The role of workplace characteristics in nurses' labor supply', *European Journal of Health Economics*, [Epub ahead of print].

Engel, L., Bansback, N., **Bryan, S.**, Doyle-Waters, M. M. and Whitehurst, D. G. (2015) 'Exclusion criteria in national health state valuation studies: a systematic review', *Medical Decision Making*, [Epub ahead of print].

Hernández, R., Burr, J.M., Vale, L., Azuara-Blanco, A., Cook, J.A., Banister, K., Tuulonen, A. and **Ryan, M.** (2015) 'Monitoring ocular hypertension, how much and how often? A cost-effectiveness perspective,' *British Journal of Ophthalmology*, [Epub ahead of print].

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Norwood, P. and Krucien, N. (2015) 'Come and be part of an eye-tracking experiment', *Explorathon 2015 (public engagement)*, Satrosphere Science Centre, Aberdeen, 25 September 2015.

Poster Presentations

Dysart, L., McNamee, P. and Pol, M. van der (2015) 'Exploration of the effect of time preference on change in self-management behaviours in older adults with at least one chronic health condition', *2nd European Health Economics Association (EuHEA) PhD Student – Supervisor Conference*, Paris-Dauphine University, Paris, France, 2-4 September 2015.

Hoddinott, P. on behalf of the BIBS Study Team (**Ludbrook, A.** and **Farrar, S.** are members of the BIBS Study Team) (2015) 'Benefits of Incentives for Breastfeeding and Smoking cessation in pregnancy (BIBS): a mixed-methods study to inform trial design', *Researching Complex Interventions in Health: the State of the Art*, Rougemont Hotel, Exeter, 14-15 October 2015.

Mc Morrow, L., Ludbrook, A., Macdiarmid, J.I. and Olajide, D. (2015) 'The role of perceptions when taxing food', *Cuthbertson Prize Lecture, Rowett Institute for Nutrition and Health*, University of Aberdeen, Aberdeen, 15 April 2015.

Morgan, H. on behalf of the BIBS Study Team (**Ludbrook, A.** and **Farrar, S.** are members of the BIBS Study Team) (2015) 'Benefits of Incentives for Breastfeeding and Smoking cessation in pregnancy (BIBS): a mixed-methods study to inform trial design', *3rd Annual Healthcare Improvement Scotland Research Symposium: Bringing Evidence Together*, The Merchants' Hall, Edinburgh, 26 March 2015.

Neilson, A.R., Bruhn, H., Bond, C. and McNamee, P. (2015) 'Are socio-demographic and economic variables associated with ICECAP-O values?', *3rd Annual Healthcare Improvement Scotland Research Symposium: Bringing Evidence Together*, The Merchants' Hall, Edinburgh, 26 March 2015.

Neilson, A.R., Bruhn, H., Bond, C. and McNamee, P. (2015) 'Are socio-demographic and economic variables associated with ICECAP values?', *NHS Research Scotland (NRD Annual Conference)*, Queen Elizabeth Teaching and Learning Centre, Glasgow, 28 October 2015.

Neilson, A.R., Bruhn, H., Bond, C., Elliott, A., Smith, B.H., Hannaford, P., Holland, R., Lee, A., Watson, M., Wright, D. and **McNamee, P.** (2015) 'Pharmacist-led management of chronic pain in primary care: costs and benefits in a pilot randomised trial', *NHS Research Scotland (NRD Annual Conference)*, Queen Elizabeth Teaching and Learning Centre, Glasgow, 28 October 2015.

Robertson, L., Marks, A., Evans, J., Fluck, N., Littlejohn, C., **Neilson, A.R.**, Osler, G., Prescott, G. and Black, C. (2015) 'Translating epidemiology into healthcare planning benefits: development of a service planning toolkit using local epidemiological evidence', *Faculty of Public Health, Scottish Conference: Securing Scotland's Health*, Peebles Hydro, Peebles, 5-6 November 2016.

Seminar Presentations

Abul Naga, R. and Shen, Y. (2015) 'Joint hypotheses tests for multidimensional inequality indices (with Egyptian data applications)', *Business School Seminar*, University of Durham, Durham, England, 11 March 2015.

Abul Naga, R. (2015) 'Measurement of inequality with a finite number of pay states', *Aix-Marseille School of Economics Seminar*, Aix-Marseille University, Marseille, France, 15 September 2015.

Aoki, Y. (2015) 'Donating time to charity: not working for nothing', *Heriot-Watt University, Economics Department Seminar*, Heriot-Watt University, Edinburgh, 16 January 2015.

Aoki, Y. and Santiago, L. (2015) 'Fertility, health and education of UK immigrants: the role of English languages skills', *CPB Netherlands Bureau for Economic Policy Analysis*, The Hague, Netherlands, 9 June 2015.

Boyers, D., **McNamee, P.**, Gregson, B.A. and Mendelow, A. D. (2015) 'The cost-effectiveness of early surgery for Intra-Cerebral Haemorrhage, issues for consideration in a multi-national, high mortality study', *Academic Unit of Health Economics, Leeds Institute of Health Sciences*, University of Leeds, Leeds, England, 12 May 2015.

Mc Morrow, L., **Ludbrook, A.**, Macdiarmid, J.I. and **Olajide, D.** (2015) 'The non-price determinants of food choice: a focus on the role of perceptions', *Cuthbertson Prize Lecture, Rowett Institute for Nutrition and Health*, University of Aberdeen, Aberdeen, 15 April 2015.

Pol, M. van der (2015) 'Present bias and physical activity', *Behavioural Science Seminar*, Behavioural Science Centre, University of Stirling, Stirling, 25 March 2015.

Pol, M. van der (2015) 'Investigating the Glasgow effect on health', *Behavioural Science Seminar*, Behavioural Science Centre, University of Stirling, Stirling, 14 October 2015.

Pol, M. van der (2015) 'Quasi-hyperbolic discounting and physical activity participation', *Seminar*, Centre of Health Economics Research (COHERE), University of Southern Denmark, Odense, Denmark, 4 November 2015.

Ryan, M. (2015) 'Eye tracking methods to understand decision-making heuristics', *Stirling University Behavioural Science Centre: Behavioural Science Seminar*, Stirling University, Stirling, 11 February 2015.

Ryan, M. (2015) 'Using eye-tracking to inform decision-making processes in choice based tasks: an application to lifestyle choices to reduce obesity', *C2E2 Rounds*, Centre for Clinical Epidemiology & Evaluation, Vancouver Coastal Health Research Institute, Vancouver, Canada, 23 February 2015.

Ryan, M. (2015) 'Using eye-tracking to inform decision-making processes in choice based tasks: an application to lifestyle choices to reduce obesity', *CHS/IPH Seminar Series*, O'Brien Institute for Public Health & Department of Community Health Sciences, Cumming School of Medicine, University of Calgary, Calgary, Canada, 27 February 2015.

Santiago, L. and **Aoki, Y.** (2015) 'Fertility, health and education of UK immigrants: the role of English languages skills', *Office for National Statistics (ONS) Social and Analysis Directorate Seminar: Research, Evidence and Impact for Policy – Examples of using the ONS Longitudinal Study*, Titchfield, England, 12 May 2015.

Watson, V. (2015) 'Should all patients be treated as equals? Or does society support prioritising some patients over others?', *Grand Rounds Seminars, School of Population and Public Health*, University of British Columbia, Vancouver, Canada, 25 September 2015.

Watson, V. (2015) 'Should all patients be treated as equals? Or does society support prioritising some patients over others?', Department of Emergency Medicine, University of Alberta, Edmonton, Canada, 29 September 2015.

Workshop Presentations

Eberth, B., **Pol, M. van der** and Kemenev, D. (2015) 'Quasi-hyperbolic discounting and physical activity participation', *Network for Integrated Behavioural Science (NIBS) Workshop*, University of Nottingham, Nottingham, England, 21-23 April 2015.

McNamee, P., Murray, E., Kelly, M., Bojke, L., Chilcott, J., Fischer, A., West, R. and Yardley, L. (2015) 'Designing and undertaking health economics studies of digital interventions', *Medical Research Council (MRC) Digital Health Interventions Guidance Workshop*, London, England, September 2015.

McNamee, P., **Neilson, A.R.** and Fraser, C. (2015) 'Identifying, appraising and applying health economics evidence for public health', *Health Economics Network for Scotland Workshop*, Edinburgh, 10 June 2015.

McNamee, P., **Neilson, A.R.** and Fraser, C. (2015) 'Identifying, appraising and applying health economics evidence for public health', *Health Economics Network for Scotland Workshop, Edinburgh*, 29 October 2015.

Ryan, M. and Marshall, D. (2015) 'Using Discrete Choice Experiments in health economics: theoretical and practical issues', *Discrete Choice Experiment Workshop*, Banff Conference Centre, Banff, Alberta, Canada, 2-4 March 2015.

Ryan, M., Watson, V., Krucien, N. and Heidenreich, S. (2015) 'DCE workshop. Using discrete choice experiments in health economics: theoretical and practical issues', *HERU Expert Discrete Choice Experiment Workshop*, Aberdeen, 4-6 November 2015.

Watson, V. (2015) 'Willingness to pay in healthcare', *Health Services Management Group Workshop, Ludwig-Maximilians-Universität München*, Ludwig-Maximilians-Universität München, Munich, Germany, April 2015.

Policy Presentations and Workshops

Eberth, B. and **Ludbrook, A.** (2015) 'Socioeconomic inequalities in health and behaviour: application of novel approaches to identify health inequality in Scotland and England to inform policy', *HERU Policy Workshop*, Edinburgh, January 2015.

Ludbrook, A. (2015) Participant in *MESAS (Monitoring and Evaluating Scotland's Alcohol Strategy) Expert Seminar*, NHS Health Scotland, Edinburgh. January 2015.

Ryan, M. (2015) 'Valuing the patient experiences and going beyond QALYs in HTA', *3rd Annual Healthcare Improvement Scotland Research Symposium: Bringing Evidence Together*, The Merchants' Hall, Edinburgh, March 2015.





*HERU Staff,
PhD Students and
Visitors*

HERU STAFF, PhD STUDENTS AND VISITORS

HERU Staff



Dr Ramses Abul Naga *Diplome, MSc, PhD Reader*

Ramses joined the University of Aberdeen as a SIRE Reader in October 2010. This is a joint appointment between the Business School and the Health Economics Research Unit. His research interests are centred in the areas of public economics, health economics, microeconometrics and the measurement of inequality and well-being.

At HERU, Ramses also undertakes methodological research on the following topics:

- The measurement of social welfare and inequality in relation to ordered response data as well as anthropometric data.
- The development of inferential tools (specifically sampling distributions and hypotheses tests) for indices of welfare and inequality, especially in the context of anthropometric data as well as ordered response data.



Dr Yu Aoki *BA, MA, MSc, PhD Associate Professor*

Yu is an Assistant Professor in Economics in the Business School and the Health Economics Research Unit, and a Research Affiliate at the Institute for the Study of Labour (IZA). Yu holds an MSc and PhD in Economics from the University of Warwick and is an applied micro-econometrician working in the fields of labour and health economics. She is currently investigating the effects of (i) English language skills on health, fertility and education (ii) education on youth crimes, and (iii) English language skills on economic/residential segregations of immigrants in the UK. Yu is a lecturer of modules in the MSc Economics of Health.



Dwayne Boyers *BComm, MSc Research Fellow*

Dwayne joined the University of Aberdeen (HERU) as a research assistant in October 2009 after completing an MSc in economic policy evaluation and planning (National University of Ireland, Galway). In October 2011, Dwayne took up a joint post between HERU and HSRU. Dwayne has been involved in a number of Health Technology Assessments for NICE as well as economic evaluations alongside RCTs. Dwayne is currently involved in providing health economic support to the PROSPECT, IQUAD and INTERVAL trials and is undertaking a part time PhD looking at the use of discrete choice experiments in dental care.



Dr Hanne Bruhn *MA, PhD Research Fellow*

Hanne joined the University of Aberdeen (Centre of Academic Primary Care, CAPC) in February 2009 as a Research Fellow working on a MRC funded platform study looking at pharmacist prescribing for chronic pain. For two years Hanne was based in CHaRT in the Health Services Research Unit as a Trial Manager on two surgical trials (eTHoS and UKUFF). In September 2014 Hanne returned to CAPC to take up a joint post between the Centre of Academic Primary Care and the Health Economics Research Unit at the University of Aberdeen as a Research Fellow on the European Commission MUNROS project. She graduated from the University of Aberdeen with a MA in Psychology in 2001 and gained a PhD in Psychology from the University of Aberdeen in 2008.



Professor Stirling Bryan *BSc, MSc, PhD* Professor of Health Economics

Stirling is a part-time Professor of Health Economics at HERU. His PhD (Economics) was obtained from Brunel University (UK), following a Masters (Health Economics) from the University of York (UK). For over 25 years he has been a university-based practicing health economist with extensive engagement to the policy and decision making world. His career began in London (appointments at St Thomas' Hospital Medical School and then Brunel University), with subsequent positions in Birmingham (senior lecturer and then full professor at the University of Birmingham). His research track record reveals a long-standing goal of informing policy and practice, demonstrated, in part, through an extensive involvement with the UK National Institute for Health and Care Excellence (NICE). He emigrated to Canada in 2008 (Professor in University of British Columbia's School of Population & Public Health, and Director of the Centre for Clinical Epidemiology & Evaluation, Vancouver Coastal Health Research Institute) and continues a focus on policy-relevant research. His work at HERU is primarily within the Assessment of Technologies theme.



David Burns *BA, PgDip, MSc* Information Officer

David joined the Health Economics Research Unit (HERU) in 2013 as Information Officer. He holds a Postgraduate Diploma in Library & Information Studies and an MSc in Social Research Methods. Before joining HERU he worked as Site Librarian at Scotland's Rural College in Aberdeen and prior to that he held different roles in the library sector in NHS Greater Glasgow and Clyde. He also worked as Information Officer at the National Centre for Prosthetics & Orthotics at the University of Strathclyde for two years.



Shona Christie Business Manager

Shona joined HERU in 2001 as Unit Administrator and is now Unit Business Manager. She has worked in the University for over 25 years and prior to joining HERU, she worked as a Direct Cost Accountant in the College of Life Sciences and Medicine. In her current role, her areas of responsibility include the management of finance, human resources, IT, dissemination, all general administration and grant applications. Shona provides personal assistance to the Director of HERU, is a member of HERU's Executive Management Group and manages the support staff. Shona is also responsible for SIRE administration for the Work & Wellbeing Programme.



Dr Ourega-Zoé Ejebu *MA, MSc, PhD* Research Fellow

Zoé joined HERU in February 2014 after completing her PhD in Economics from the University of Aberdeen. Her PhD thesis investigated the effect of comparison income on individual debt in the UK. She is currently a Post-Doctoral Research Fellow. Zoé also holds an MSc in Financial Economics from the University of Glasgow. Zoé is currently working on HERU projects associated with the Health Behaviour and Inequality. Since January 2015, she is also involved in projects in the Workforce and Organisation of Care theme.



Professor Bob Elliott *BA, MA, FRSE* Professor of Economics

Bob is a Professor in the Health Economics Research Unit at the University of Aberdeen. He joined HERU as Director in December 2001, a post he held until September 2012. He is a Fellow of the Royal Society of Edinburgh and between 2007 and 2015 was a Commissioner on the Low Pay Commission which sets the UK minimum wage. He has held visiting positions at several universities in the USA, Europe and Australia and has acted as consultant and adviser to the Police Federation, HM Treasury, the EC and OECD. Bob co-ordinates the EC Framework 7 research project MUNROS – Health Care Reform: The iMPact on practice, oUtcomes and costs of New roles for health pROfeSSionals. He is conducting research into potentially preventable hospitalisation in conjunction with researchers in Aberdeen and the University of Western Sydney in Australia. He leads research Theme C Researching the Delivery of Care within the Institute of Applied Health Sciences at the University of Aberdeen.

HERU STAFF, PhD STUDENTS AND VISITORS



Dr Shelley Farrar *BA, MSc, Dip, PhD* Research Fellow

Shelley joined HERU in 1991 and is currently a Research Fellow. Shelley graduated from the University of Strathclyde with a BA in Economics in 1989 and joined HERU after working at the Scottish Office as an Economic Assistant. She has since gained an MSc in Economics from Glasgow University and a PhD in Economics from the University of Aberdeen. Her research interests are primarily on the impact of incentives on the provision of health care, health care users and health behaviours. Her research focus is currently on behaviours during pregnancy and food choices. Shelley is Programme coordinator of the Postgraduate Certificate in Health Economics (distance learning).



Rodolfo Hernández *Lic, MSc* Research Fellow

Rodolfo joined HERU in October 2002 after completing an MSc in Health Economics (University of York, UK). In addition, he has a first degree in economics (UNLP, Argentina). Between 2008 and 2013, Rodolfo was an RCUK Research Fellow and in that period held a joint post between HERU and the Health Services Research Unit (HSRU). He has been involved in a number of Health Technology Assessments for NICE and other bodies, as well as economic evaluations alongside RCTs. Rodolfo's PhD on looking at how to use discrete choice experiment generated willingness-to-pay measures within decision analytic models, which used the monitoring of individuals with ocular hypertension at risk of developing glaucoma as a case study, was awarded subject to minor changes in 2015.



Alison Horne *BA* Administrative Assistant

Alison, who joined HERU in 2009, has worked in various secretarial roles within the University. In 2001 she commenced work for Estates Facilities and then went on to work for Careers & Appointments in 2002 and then Student Recruitment in 2004. She left the University in 2006 where she moved to Edinburgh and worked for the NHS as an Interviewer/Analyst. Alison undertakes a wide variety of administrative tasks including grant applications, organising conferences and events. Alison recently completed a BA in Business Management.



Lesley Innes Secretary

Lesley joined HERU in March 2011 as Unit Secretary and is responsible for the administration for the Postgraduate Certificate in Health Economics as well as secretarial and other administrative duties. Prior to joining HERU Lesley worked in various Local Government offices.



Dr Mehdi Javanbakht *BSc, MSc, PhD* Research Fellow

Mehdi joined HERU in December 2013. He is a Research Fellow involved in conducting economic evaluations alongside RCTs. He was awarded his PhD at Iran University of Medical Sciences in 2013. His PhD thesis investigated the economic burden and quality of life of type 2 diabetic patients in Iran. Mehdi has research interests in economic evaluation, application of Bayesian methods in health economics, economic burden of disease and global health.



Mary Kilonzo *BA, MSc* Research Fellow

Mary is a Research Fellow in the Health Economics Research Unit. She holds a BA in Economics and German Language from the University of Nairobi and an MSc in Health Economics from the University of York. Her main research interests include developing and applying economic evaluation methodology in trials and systematic reviews and the use of discrete choice experiments in health benefit measurement.



Dr Nicolas Krucien *BSc, MSc, PhD* Research Fellow

Nicolas joined HERU as Research Fellow in November 2013. He completed his MSc and PhD in Health Economics at the University of Paris 11 (France). He is an applied micro-econometrician working in the fields of choice modelling and health economics. Nicolas contributes to the Methods of Benefit Valuation theme and has been involved in a number of research projects about stated preferences methods. He is currently involved in projects using an eye-tracker to investigate how participants to choice experiments process the information about medical services.



Professor Anne Ludbrook *BA, MSc* Professor of Health Economics

Anne is a graduate of the University of York. After working at Grampian Health Board, she joined HERU in 1983. Since then she has been involved in a range of research activities and in consultancy work. Her current research interests are focussed around the use of economics in health improvement, with a particular interest in alcohol, obesity and smoking. She led the review of the health and economic impacts of smoking in public places that supported the introduction of smokefree legislation in Scotland. Other recent studies have focussed on minimum unit pricing for alcohol; inequalities in the distribution of alcohol related harms; economic factors influencing food choice; and the use of incentives for quitting smoking.



Lynda McKenzie *BA, MSc* Research Fellow

Lynda first joined HERU in 1987 and holds a BA in Economics and an MSc in Transport Engineering and Operations, both from the University of Newcastle Upon Tyne. She worked as a transport economics research officer at the University of Oxford before joining the Centre for Health Economics at the University of York as a research assistant. She worked at HERU between 1987-1989 and 1991-1992, before re-joining in 1996. Her current interests include the evaluation of interventions to improve wellbeing especially diet and physical activity post-partum, and alcohol purchases in relation to price.



Dr Debbie McLaggan *BSc, PhD* MUNROS Project Administrator

Debbie joined HERU in June 2013 as part-time project administrator for FP7 'MUNROS' project coordinated by Christine Bond and Robert Elliott. In her current position, she is responsible for managing, co-ordinating and delivering the administrative and financial functions required to deliver the MUNROS European Commission Project within the agreed timetable.



Professor Paul McNamee *MA, MSc, PhD* Professor of Health Economics & Health Behaviour and Inequality Theme Leader

Paul joined HERU as a Senior Research Fellow in October 2002 and is now Professor of Health Economics. His current research interests include the study of economic aspects of healthy ageing and social care, and the development of methods to design and evaluate self-management strategies in long-term conditions. He is the lead for the "Health Behaviour & Inequality" theme.

Paul holds an MA Honours degree in Economics from the University of Aberdeen, an MSc in Health Economics from the University of York, and a PhD from the University of Newcastle. Prior to his present appointment, he was a Research Associate then Lecturer in Health Economics at the University of Newcastle.



Aileen Neilson *BSc, MSc* Research Fellow

Aileen joined the Health Economics Research Unit as a Research Fellow in October 2013. Aileen's role is to expand and enhance health economics research within the Institute of Applied Health Sciences (IAHS). She is working with existing members of staff within IAHS to develop new research collaborations in current areas of strength within the institute.

Aileen has experience in conducting and managing health outcomes research and economic evaluation studies in the UK NHS setting and other European countries. She holds a BSc in Science with Management Studies (Napier University, Edinburgh) and an MSc in Operational Research (Strathclyde University, Glasgow). Aileen has worked in various clinical areas including oncology, orthopaedics & trauma surgery, intensive care, stroke and diabetes. She has over 20 years of prior research experience, in academia and in health care consultancy roles.



Dr Patricia Norwood *Licenciatura, MSc, PhD* Research Fellow

Patricia Norwood holds an honours degree in Economics from the University of Evora and an MSc in Economic Policy from the University of Minho, Portugal. Her MSc dissertation investigated the introduction of Diagnosis Related Groups (DRGs) in Portuguese hospitals and she was awarded her PhD at the University of Aberdeen, looking into the effects of rurality and remoteness on hospital costs in Scotland. Patricia is currently working on projects associated within Health Behaviour and Inequality theme.



Dr Damilola Olajide *MA, MSc, PhD* Research Fellow

Dami joined HERU as a Research Fellow in September 2006 and holds a BSc (Hons) degree in Economics from Ambrose Ali University, Ekpoma Nigeria. He was an African Graduate Fellow (1997-1999) at the American University in Cairo, where he obtained a Master's degree in Economics. He obtained a PhD degree in Economics from the Monash University, Melbourne Australia. Dami specialises in econometric analysis of large, administratively linked data sets related to hospital admissions, health behaviour and quality of disease management in primary care. He undertakes microeconomic analysis of interventions to reduce health inequalities, particularly relating to the impact of individual lifestyle choices (e.g. smoking, diet, alcohol consumption, physical activity, sedentary behaviour) on health outcomes, and the contextual factors influencing these choices (e.g. education, income, family, environment).



Professor Marjon van der Pol *MA, Dip, PhD* Depute Director & Director of Teaching

Marjon is the Depute Director of HERU. Marjon joined HERU as a Senior Research Fellow in May 2004. She holds a MA in Business Economics from the University of Nijmegen (Netherlands) and a PhD in Economics from the University of Aberdeen. She previously worked in HERU from 1995 to 2001 as a Research Fellow and at the University of Calgary (Canada) from 2002 to 2004 as Assistant Professor. Marjon is also an honorary Professor at the Behavioural Science Centre at the University of Stirling.

Marjon's main research interest is in the relationship between time and risk preferences and health (behaviours). Current research focuses on the role of time preferences in the education health relationship, the role of time preference in the intergenerational transfer of health behaviours and whether differences in time and risk preferences can help explain the Glasgow effect. Marjon also conducts research into the cost-effectiveness of health interventions. Research focuses on interventions which have an important behavioural component including smoking cessation, dental care and self-management of chronic conditions.

Marjon is also the director of teaching in HERU and the course co-ordinator of the health economics option on the Scottish Graduate Programme in Economics.



Professor Mandy Ryan *BA, MSc, PhD, FRSE* Director

Mandy is the Director of the Health Economics Research Unit (HERU). She joined HERU in 1987 after graduating from the University of Leicester with a BA (Hons) in Economics and the University of York with an MSc in Health Economics. In 1995 she graduated from the University of Aberdeen with a PhD in Economics concerned with the application of contingent valuation and discrete choice experiments in health economics. In 1997 Mandy was awarded a 5-year MRC Senior Fellowship to develop and apply discrete choice experiments in health care, in 2002 she was awarded a Personal Chair in Health Economics by the University of Aberdeen and in 2006 she was elected as a Fellow of the Royal Society of Edinburgh. She took up the Directorship of HERU in April 2013. Mandy has worked with academics, government and the pharmaceutical industry and has published widely in the field of health economics generally, and monetary valuation more specifically. She has extensive teaching experience, and currently contributes to HERU's annual expert Discrete Choice Experiment Workshop. In 2012 Mandy was ranked amongst the top health economists in the world, placed 21st on the list of the top 100 health economists, based on a measure of health economics publications and the number of times they have been cited, making her the top ranked health economist in the UK.



Dr Graham Scotland *BSc, MSc, PhD* Senior Research Fellow & Assessment of Technologies Theme Leader

Graham is a Senior Research Fellow and 'Assessment of Technologies' theme leader in HERU. He joined HERU in 2004 and has since 2012 held a joint appointment between HERU and the Health Services Research Unit (HSRU). His current research interests span both model and trial based economic evaluation, with specific areas of interests including the evaluation of technologies in widespread routine use, the use of patient level data to inform decision models, and the valuation of outcomes within economic evaluation. Graham graduated from the University of Edinburgh in 1998 with BSc (Hons) in Pharmacology, and following this undertook an MSc in Health Services and Public Health Research at the University of Aberdeen. After completing his MSc he worked at the Dugald Baird Centre for Research in Women's Health, University of Aberdeen, where he undertook research into economic aspects of maternal health care delivery in developing countries. Since his appointment in HERU he has gained over 10 years' experience working in the area of health technology assessment. In 2012 he completed a part-time PhD on methods for incorporating broader measures of value into economic evaluation in the area of reproductive health care.



Dr Diane Skåtun *MA, MSc, PhD* Senior Research Fellow & Workforce and Organisation of Care Theme Leader

Diane is theme leader for 'Workforce and Organisation of Care'. Her current work focuses on health care personnel and how financial and non-financial incentives influence the behaviour of the health care workforce. Diane graduated with an MA (Hons) in Political Economy from the University of Glasgow and then joined the Scottish Doctoral Programme in Economics and gained an MSc in Economics. She continued on the Scottish Doctoral Programme and graduated from the University of Aberdeen with a PhD entitled "Econometric Bias and the Estimation of Male-Female Wage Differentials".

HERU STAFF, PhD STUDENTS AND VISITORS



Chris Spoor *MSc, Dip. Ed., BSc Senior Teaching Fellow*

Chris is a tutor on the HERU distance-learning Postgraduate Certificate in Health Economics. He graduated with a BSc in Economics from the University of Edinburgh, and also holds a Diploma in Education from the University of Aberdeen and an MSc in Health Technology Assessment from the University of Sheffield. He has held full or part time roles at HERU since the 1980s, when he first taught on and managed the certificate course, and is currently Part time Senior Teaching Fellow.

Chris has taught courses in economics or health economics at the universities of Maryland, Aberdeen, Dundee and Leeds, and is currently Principal Lecturer in Economics at Leeds Beckett University. Interests include evaluation of complex interventions, health labour markets and the role of incentives in health professionals' decision making.



Emma Tassie *BA, MSc Research Assistant*

Emma joined the Health Economics Research Unit as a Research Assistant in January 2012 after completing an MSc in Health Economics (University College Cork, Ireland). Emma is currently involved in conducting economic evaluations alongside randomised controlled trials (HTA) and developing health economic models to accompany systematic reviews, conducted as part of the technology appraisal review (TAR). For her MSc thesis she conducted a preliminary cost-effectiveness analysis on the randomised controlled trial Saving and Empowering Young Lives in Europe (SEYLE).



Dr Verity Watson *MA, MSc, PhD Senior Research Fellow & Methods of Benefit Valuation Theme Leader*

Verity leads the Methods of Benefit Valuation research theme. Verity's research focuses on non-market valuation, experimental economics and applied labour economics. Verity has applied stated preference methods to value health, health care and environmental amenities. In doing so, Verity has worked with academics from many different disciplines, the government and the pharmaceutical industry.

PhD Students



Gin Nie Chua *MPharm, MPharm (Clinical)*

Gin Nie joined HERU in October 2013 and began her PhD, entitled "Assessment of the external validity of discrete choice experiments: an application in pharmacy" under the joint supervision of Professor Mandy Ryan, Professor Christine Bond and Dr Terry Porteous. She was awarded a PhD scholarship by the Commonwealth Scholarship Commission United Kingdom.

Her research interests are related to the area of pharmacy practice, patient reported outcome and preference research. She graduated with a pharmacy degree from the University of Strathclyde, Glasgow in 2006. She is a registered pharmacist with the Malaysian Pharmacy Board and had worked as a hospital pharmacist with the Ministry of Health, Malaysia for 4 years. Following the completion of her Masters of Pharmacy in Clinical Pharmacy at the Universiti Sains Malaysia in 2010, she joined the Discipline of Social and Administrative Pharmacy, School of Pharmaceutical Sciences, Universiti Sains Malaysia as a lecturer. She also holds a Postgraduate Certificate in International Health Technology Assessment, Pricing and Reimbursement from the University of Sheffield.



Laura Dysart *BSc, MSc*

Laura joined HERU in January 2015 and is pursuing a PhD in Health Economics under the joint supervision of Professor Paul McNamee and Professor Marjon van der Pol. The focus of her doctoral research will be the role of time and risk preference on self-management for long-term conditions. She was awarded a PhD studentship by the Health Economics Research Unit. Laura holds a Masters in Health Economics from the University of York and a Masters in Health Research Methodology from McMaster University.



Sebastian Heidenreich *BSc, MSc*

Sebastian started his PhD with the topic 'Do I care or do I not? – An empirical assessment of decision heuristics in discrete choice experiments' at the beginning of October 2012 after graduating with an MSc in Economics from the University of Edinburgh (Scottish Graduate Programme in Economics). His research is funded by the Flagship Studentship of the Institute of Applied Health Science, will last for 48 months and is jointly supervised by Professor Mandy Ryan (HERU), Dr Verity Watson (HERU) and Professor Euan Phimister (University of Aberdeen, Business School). Sebastian is interested in applied econometrics, stated preference methods, non-market valuation and health economics in general. Sebastian lectured in time series analysis at Nuertingen-Geislingen University in 2013 and 2014 (currently on leave) and also presented at the annual short course in discrete choice experiments, organised by HERU, in 2014. Since 2015 he is council member of the Scottish Economic Society (SES).



Alastair Irvine *MA, MSc*

Alastair began his PhD at HERU in October 2014 on the topic Time and Risk Preferences, funded by the Institute of Applied Health Sciences. He is being supervised by Professor Marjon van der Pol and Professor Euan Phimister (University of Aberdeen, Business School). The research will explore patient and practitioner time preferences and how these interact. He completed his MSc in Economics at the University of Edinburgh as part of the Scottish Graduate Programme in Economics in August 2014, with a dissertation comparing linear and non-linear forecasting sponsored by the Scottish Government. Prior to this, he gained his MA (Hons) in Economics at the University of St Andrews, graduating with a First in June 2012.



Liam Mc Morrow *BA, H.dip, MSc*

Liam started his PhD in October 2012. His PhD thesis is examining the determinants of food choice in Scotland and has involved both primary and secondary data analysis. The Scottish Health Survey was utilised to examine the relationship between perceived barriers towards healthy eating and a healthy diet. Primary data collection was necessary to observe associations between time preferences and diet quality. A Discrete Choice Experiment was undertaken to investigate framing effects in snack food choices. He has been awarded a PhD studentship by the Rowett Institute of Nutrition and Health (RINH), which is supervised by Professor Anne Ludbrook, Dr. Jennie Macdiarmid and Dr Dami Olajide.



Kevin Momanyi *BSc, MSc*

Kevin joined HERU in October 2015 and will be working with Professor Paul McNamee and Dr Diane Skåtun on an ESRC/Scottish Government funded studentship entitled 'Enhancing quality in social care through economic analysis' over the next 36 months. He holds an MSc in Health Economics and Policy and a BSc in Economics and Statistics, both from the University of Nairobi. His research interests include econometric modeling, health policy analysis and economic evaluation in health care.



Ruben Sakowsky *BA, MSc*

Ruben joined HERU in September 2015. His PhD in Health Economics is supervised by Professor Mandy Ryan (HERU) and Professor Vikki Entwistle (HSRU). His research is funded by the Gavin Mooney Studentship and focuses on evaluating justification and decision-making schemes for resource allocation in health care. He will also be investigating if, and how, deliberative models of preference evaluation can inform the framework of policy makers. Ruben is interested in matters of deliberative democracy, justice theory, questions concerning democratic representation and inclusion, and the relationship between community values, individual interests, and utility maximisation in health care.

Ruben holds a BA in Political Science and Philosophy from Freiburg University and a Masters in Philosophy and Ancient History from the University of Göttingen. In addition, he spent a year studying political science and philosophy at Roma Tre University in Rome, Italy. He is an alumnus of the German National Academic Foundation and spent a Fulbright year at the University of Colorado at Boulder.

HERU STAFF, PhD STUDENTS AND VISITORS



Uma Thomas *BSc, MSc*

Uma joined HERU as a part-time PhD student in October 2015 after completing an MSc in Health Economics, also at HERU. The title of her PhD is 'Using insights into time preference and present bias to develop an intervention to improve adherence to exercise'. It is a cross-disciplinary project with Professor Marjon van der Pol as the primary supervisor and Dr Julia Allan from Health Psychology as second supervisor. The PhD is funded internally by the Institute of Applied Health Sciences at the University of Aberdeen and aims to develop and test an interactive web-based tool that improves an individual's adherence to exercise by taking into account their time preference. The project combines Uma's interests in behavioural economics with her interest in the benefits of exercise on health. Uma graduated from Dundee University with a degree in Maths and Statistics and worked as a computer analyst programmer prior to studying health economics.



Antje Tockhorn-Heidenreich *BSc, MSc*

Antje began her part-time PhD with the topic 'Patient preferences in Health Technology Assessment' at the beginning of October 2012. Her research is supported by the Economic and Social Research Council, Scottish Graduate School in Social Science Doctoral Training Grant and is supervised by Professor Mandy Ryan, Dr Graham Scotland and Professor Vikki Entwistle (HSRU).

HERU Visitors during 2015

Name	Institution	Description of Visit
Dr Mari Nagai	National Center for Global Health and Medicine (NCGM), Tokyo, Japan	Dr Nagai is working on issues of recruitment and retention of health workers in Senegal. She visited HERU in January to discuss collaboration on a study concerned with health workers preferences.
Dr Alison Pearce Post-Doctoral Research Fellow	National Cancer Registry in Ireland	Dr Pearce visited HERU in January/February to work with Dr Verity Watson. Dr's Watson and Pearce are collaborating on a discrete choice experiment about cancer survivor's preferences for follow up care. While visiting the unit Dr Pearce presented at the Stated Preference seminar group.
Dr Danny Campbell Senior Lecturer and Dr Seda Erdem Lecturer (Assistant Professor)	University of Stirling	Visiting HERU in November, Dr's Campbell and Erdem presented their latest research on best-worst scaling. Following their presentation they met with stated preference researchers from across the unit to discuss potential collaborations.

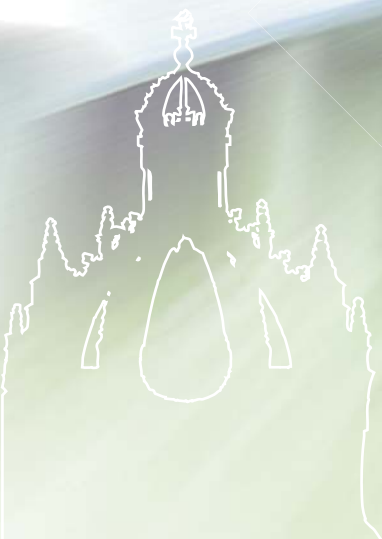


The logo for HERU, featuring the letters 'HERU' in a bold, green, sans-serif font. The 'H' and 'E' are connected, and the 'R' and 'U' are also connected. The background is a faded, light green image of a large, historic building with a prominent spire and a dome.

HERU

visit us at

<http://www.abdn.ac.uk/heru>



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